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ABSTRACT

Researchers gathered data on all state, city, and property taxes in ten cities in three states to find whether tax limitation measures have changed the distribution of tax burdens among income classes. The ten cities--representing a range of tax rates, economic bases, income levels, demographic characteristics, and revenue systems--comprised Kansas City and Wichita (Kansas); Camden, East Orange, Montclair, and Newark (New Jersey); and Cerritos, Compton, Los Angeles, and Oakland (California). All three states had passed fiscal limitation measures in the 1970s. After discussing theories of the distribution of tax burdens (or tax "incidence"), the researchers constructed models allocating property and other tax burdens among five income classes. They then calculated the change in tax burden among the income classes and between renters and owner-occupiers caused by the fiscal restraints. Results indicate that tax burdens were reduced in all California and New Jersey cities; that the lowest income group had the highest tax burden both before and after tax limitation, and that tax burdens became more progressive in all cities except Montclair and Newark, chiefly because progressive state income taxes were substituted for regressive property taxes. (Author/RW)

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Fiscal Restraints and the Burden of Local and State Taxes

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PREFACE

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The distributional consequences of fiscal limitations constitute important information for policymakers. In the states where such measures have been adopted, the results of this research will help identify who benefited and who was hurt, and thus whether equity was thereby advanced or retarded. Such findings also may illuminate long-term public reactions to fiscal limitation. States contemplating the adoption of tax or spending controls can learn from the experience of predecessors. Where necessary, protections can be built into the reform.

We wish to thank James A. Kelly, former Program Officer at the Ford Foundation, for his aid and advice during the course of the project. Aaron Gurwitz of Rand and Burton Weisbrod of the University of Wisconsin read earlier drafts and made important contributions to the improvement of the document. Mark Menchik of Rand helped in formulating the project and had a key role in its administration. Beverly Lowe and Jane Peterson performed admirably as research assistants. Numerous state and local officials, and representatives of civic and client groups, gave generously of their time and data; without their help this study could not have been completed. Ultimate responsibility for its contents, of course, rests with the authors.

SUMMARY

Fiscal limitation measures, such as California's Proposition 13 and the tax and spending cap laws in Kansas and New Jersey, change the balance of taxes used to finance public services. Since the distribution of tax burdens among income classes varies by type of tax, fiscal limitations may have important equity effects. To assess those effects, we performed tax-incidence analyses in Kansas City and Wichita, Kansas; Camden, East Orange, Montclair, and Newark, New Jersey; and Cerritos, Compton, Los Angeles, and Oakland, California. In focusing on tax burdens in these ten cities, we are separating the burden of taxes from the effects of expenditures financed by these taxes; we do not address the latter in this report.

THEORETICAL CONSIDERATIONS

The incidence of taxes has long been a battleground among economists. There are two polar schools of thought on the incidence of the property tax (which accounts for one-fifth to three-fifths of all state and local revenues).

One school assumes that taxes on land and capital are passed on to consumers in the form of higher prices; and because consumption is a larger fraction of income (or wealth) for the poor than for the rich, this school regards property taxes as highly regressive—that is, the poor pay a larger fraction of their income in the form of property taxes than do the rich.

The other school, in which we are enrolled, contends that property taxes are borne by landowners and capitalists, and since land and capital are held primarily by the rich, property taxes are highly progressive. (Systems in which taxes absorb the same fraction of income for all classes are said to be proportional.) The regressivity or progressivity of the entire state and local tax system hinges on assumptions made about property tax incidence.

There are two steps in our estimation of tax incidence. We first assess individual or family ability to pay, and then assign tax burdens to individuals and families. For ability to pay, we employ a broad income concept that includes nonmonetary income (imputed rents) as well as money income flows.

We analyze property tax burdens in two parts, the first concerned with the national average of all property taxes, and the second with local deviations around that average. Under this view, all capitalists and landowners bear the burden of a national average property tax in the form of reductions in rates of return to land and capital. For local deviations around a national average tax rate, we assume that choice of residence is partly determined by differences in local tax rates levied by geographically small entities for which there are many close substitutes in surrounding communities, and that migration flows are, therefore, an important element in any theory of property tax incidence. Thus, deviations from the national average of all property tax rates will be borne for the most part by owners of local land. Landowners in areas with below-average property taxes will benefit through higher than average land values, with the converse holding for landowners in high-tax areas.

We also review the property tax incidence assumptions used in past studies, and discuss some of the criticisms that may be leveled at our approach. A central issue in the debate on property tax incidence concerns the degree of capitalization of local taxes into land values. Our

approach argues that deviations in local property tax rates from the national average tax rate are completely capitalized. We discuss arguments in the literature against our assumption.

For other state and local taxes, we follow what amounts to conventional practice, but suggest that such practice is not based on particularly strong theoretical underpinnings. It is conventional practice, for example, to treat state income and sales taxes as if they were federal taxes.

FISCAL LIMITATION PROVISIONS AND STUDY SITES

Tax limitation programs in Kansas, New Jersey, and California typify current efforts throughout the United States to limit taxation, to cut government expenditures, and to restrict future government growth. Originally enacted in 1970, Kansas's "Tax Lid Law" imposes an aggregate limitation on property tax levies. Legislated in 1976, New Jersey's "Cap Law" places a 5 percent limit on annual increases both in county property tax revenues and in municipal expenditures. In the same year, a state income tax was introduced. Passed by voters in 1978, California's Proposition 13 forces an actual reduction in taxes and spending, thus making it the most restrictive of the three measures.

These three states are widely diverse. They lie in three distinct geographic regions—the Great Plains, the East, and the West—and they have three different kinds of economies—agricultural, industrial, and a mixture of the two. Between 1970 and 1980, Kansas experienced a slow, steady population growth of about 5 percent. New Jersey's rate was about 2.7 percent, and California enjoyed a population surge of about 18.5 percent. Tax and spending rates have been low in Kansas, moderate in New Jersey, and high in California. During the 1970s, all three states came to rely increasingly on federal and state aid to finance local governments. In California, property tax reforms took place in a climate of overall fiscal strength, whereas in New Jersey they occurred in the face of serious declines in property tax bases, while Kansas falls somewhere in the middle.

The cities selected for study also vary widely. According to the 1980 preliminary census figures, they range in population from a low of 38,301 in Montclair to a high of 2,950,010 in Los Angeles. In 1970, their black populations varied from less than 1 percent in Cerritos to 71 percent in Compton, and their Spanish populations from virtually zero in East Orange and Montclair to 18 percent in Los Angeles. According to 1977 estimates, per capita income varied from $3,431 in Compton to $9,648 in Montclair. The percentage of city revenues from property taxes in 1978 ranged from 1 percent in Cerritos to 60 percent in Montclair, and the percentage of city revenues from higher levels of government ranged from 22 percent in Kansas City to 68 percent in Compton.

For each city, we collected data for the year falling two years before the implementation of the fiscal limit, and for the most recent post-limit year for which data are available. Comparisons are made among cities, and before and after the fiscal limit within cities.

METHODOLOGY AND DATA

We are concerned with the total burden of all state taxes, fees, and charges, all property taxes (regardless of the jurisdiction levying them), and all city taxes, fees, and charges, as they bear upon people in each of five income classes in each city. Several general principles molded our approach:

- The amount of effort we expended on refining the burden estimates for individual taxes was in rough proportion to the share of the tax in the total burden of local and state taxes.
- Whenever possible, we used information and data specific to our case-study cities, rather than state or national averages.
- We focused on measuring the change in, rather than the level of, burdens of local and state taxes in each state for the pre- and post-fiscal limit year.
- We calculated tax burdens in terms of calendar years and constant 1976 dollars.
- We assumed that the burdens of all sales and excise taxes fall on the consumers of the particular products that are taxed.

Calculating the burden of property taxes in the ten case-study cities involved three tasks: (1) computing the proportion of the nationwide burden of property taxes accruing to residents of each income group in each case-study city in each year, (2) calculating national and local property tax rates, as a percent of market value of property, for each relevant year, and (3) estimating the distribution of local landownership by income classes. Calculating the burden of the other taxes in the state/local system was much more straightforward, using standard methods.

EMPIRICAL FINDINGS AND SPECULATIONS

With the adoption of fiscal limits, taxpayers in all the California and New Jersey cities enjoyed a reduction in tax burdens, measured as a fraction of personal income.[1] In Kansas, tax burdens began to rise in 1969; by 1978 they were close to the level for Newark and the smaller California cities. No particular relationship is apparent between change in burden and city size or type (e.g., suburb or central city). There is a slight tendency, however, for residents of more affluent cities to bear higher tax burdens. Both before and after fiscal limits, the lowest income group bore the highest relative burden.

Generally, state and local tax systems moved in the progressive direction when the pre- and post-limitation periods are compared on indices of tax proportionality. The substitution of state income tax for local property taxes was probably responsible, along with tax relief, especially for the lowest income class. The most regressive systems—characteristic of the poorer New Jersey cities—moved fastest in the progressive direction.

As the pressure for fiscal containment continues, local and state revenue systems will find it harder and harder to support traditional levels of public services, and may institute a search for new revenue sources. Two sources that have received increasing attention are (1) user fees and charges, which are generally regressive, and (2) discriminatorily higher levels of taxation on business property (as compared with residential), which tend to have a progressive effect.

The net effects on the overall distribution of burdens will depend on the eventual balance struck in tapping the various sources of local and state revenue: property taxes on dwellings and business (net of rebates), sales taxes, user charges, individual and corporate income taxes, and grants from higher levels of government. The nature of the future balance will depend on political factors that vary from place to place.

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[1]The reduction occurred between 1976 and 1979 in California, and between 1974 and 1978 in New Jersey.

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Chapter 1

INTRODUCTION

This report is part of a larger study on the equity consequences of fiscal containment. A companion document examines the service-level changes associated with fiscal limitations.[1] A separately published executive summary will synthesize the findings of the tax burden and service output reports in nontechnical language.

Fiscal limitation measures are a chief cause of containment. The tax revolt that gave rise to the fiscal limitation movement was motivated by the discontent of middle-class taxpayers. In a series of recent public opinion surveys, voters expressed dissatisfaction with the level and rate of growth of local and state taxes, with the redistributive effects of the fiscal systems, with the compensation levels of public employees, and with many other aspects of government.[2] Voters express their dissatisfaction in several ways. They vote in favor of fiscal limitation initiatives, they pressure their legislatures to adopt limitation statutes, they turn down bond and tax override proposals, and they migrate out of high-tax jurisdictions, thus eroding the local tax base.

Have such phenomena materially eased the tax burdens of the middle-income class? Has relief come at the expense of additional burdens—absolute or relative—for lower-income groups? Or for the rich?

This report seeks to answer those questions by analyzing the changes in fiscal burdens borne by residents of ten cities in three states that have adopted fiscal limits. In each we attempt to measure the level of the total burden of state and local taxes, as it varies across income classes, in both the pre- and post-adoption period. We do this so that we may focus on the changes, in level and in distribution, that occurred when the fiscal-limit laws were instituted. We also discuss burden changes for owner-occupiers as compared with renters. Finally, we speculate about how possible future modifications of the tax structure might affect the distribution of tax burdens.

In all three states, the fiscal limit laws whose passage determines the "before" and "after" periods we study are limits on taxing or spending by local governments. Because state taxes are not constrained by these laws, there are opportunities for the substitution of state for local taxes, and such substitution explicitly or implicitly occurs in all three states. For this reason we include both state and local taxes when we calculate the changes in the level and distribution of burdens that occurred following the institution of legal constraints on the fiscal activities of local governments.

Much more analysis than we report here could be done using our tax incidence calculations. We have left interesting issues unexplored, and interesting questions unanswered, because we had neither the time nor the resources to examine as many details about tax burdens as we would like. As a result, we concentrate on the basic issue of the overall change in tax burden, rather than the details of that change.

Chapter 2 lays out our theory of tax incidence, which forms the underpinning for this study.

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[1]Menchik, Fernandez, and Caggiano (forthcoming). See the following earlier Rand publications for treatments of the fiscal limitation movement and especially of Proposition 13 in California: Pascal et al. (1979), Walker et al. (1980), Menchik and Pascal (1980).

[2]Pascal et al. (1979), pp. 1-4.

It provides, most importantly for the property tax, the rationale for our allocation of tax burdens by income group and location. Concepts of tax shifting, tax incidence, and tax capitalization are explored.

Chapter 3 describes the three fiscal limitation provisions and criteria for the selection of the case-study jurisdictions. It also presents data on the characteristics—e.g., demography, economic base—of the states and the ten local study sites. Finally it describes the revenue systems of the states and localities, showing sources and growth trends.

Chapter 4 covers data and methodology, identifies sources for statistics, and discusses how each tax was allocated among various groups.

Chapter 5 presents our quantitative findings, with emphasis on changes in effective tax rates and shifts in indices of tax progressivity/regressivity.

Chapter 6 presents our conclusions. An overall assessment of the incidence and distributional consequences of fiscal limits is offered. Some speculation about the future course of events ends the report.

Chapter 2

THE THEORY OF TAX INCIDENCE

Because the study of tax incidence has a long and hallowed history in economics, one might expect a consensus to have been reached by now on who bears the burden of different federal, state, and local taxes. But, as any beginning student of public finance quickly learns, each passing year seems to bring with it less rather than more agreement among public finance economists. Yet our tax system, and the distribution of its proceeds, are perhaps the single most important governmental force shaping society. As society appears to be searching, albeit haltingly, for a new equilibrium level of its government sector, some guidance must be provided on the effect of fiscal change for the distribution of welfare among individuals and families. This is a tall order, and we will not have filled it fully even at the completion of the project.

This chapter has the much more limited objective of reviewing what we do and do not know about the allocation of state and local taxes, and of setting out the theory behind the tax allocation scheme on which we base our work. Along the way, some extensions are made to existing theories of tax allocation, and the gap between theory and application is narrowed. Throughout, this section focuses on the theory that underlies our allocation of the burdens of local and state taxes. The methodology and the data we used in our calculations are the subject of Chap. 4.

Below we present background information to put our discussion of the theory of tax incidence into perspective and to indicate why we concentrated on one set of issues and not another. We then summarize several previous attempts to assess the distributive nature of federal, state, and local taxes. Next, we analyze local property tax incidence by income class, and set out the tax allocation rules for other major state and local taxes. We then discuss measures of income. The chapter concludes by comparing our approach with previous methods, with special emphasis on the allocation of property taxes, and a rebuttal to criticisms that our approach may generate.

BACKGROUND

Among applied public finance economists, a traditional strategy for dealing with unresolved issues in the theory of public finance has been to mount a sensitivity analysis based on a series of assumptions that span the range of possible tax allocation options. Each of these options is based on one of the principal schools of thought on the allocation of a particular tax. While there are circumstances under which these sensitivity analyses can be useful to policymakers, this is, we believe, not one of them; as the number of taxes and schools grows, the number of permutations and combinations rapidly becomes unmanageable.

In the area of tax incidence, sensitivity studies often produce results that range too widely to be useful to policymakers. For example, property taxes are a major component of state and local taxes and there are two principal schools of thought on their allocation. These two schools generate allocation schemes for property taxes that are so completely contrary to each other that the property tax swings from being among the most progressive of all U.S. taxes to among the most regressive at the other. This swing is so great, and the importance of property taxes

so large in state and local finances, that the reported regressivity or progressivity of the entire state and local tax system depends on how property taxes are allocated.[1] Under these conditions, policymakers concerned with the equity of tax reforms are left little better off with these studies than they were without them; reasonable cases appear to abound for almost any viewpoint.

Based on the outcomes of sensitivity analyses by others, particularly Phares (1980), we have chosen to pursue a different tack in this study. We have reviewed previous studies of tax incidence and determined where the controversy is greatest among experts, and where outcomes are most sensitive to that controversy. Based on this review, we chose to devote relatively little analytic attention to taxes that were either not very important in determining the overall distribution of state and local taxes or on which there is basic agreement among public finance economists; at the other extreme, we elected to devote a great deal of attention to those taxes that provide significant portions of state and local revenues, and about which there is little agreement as to the appropriate allocation among income groups. These rules led us to accept traditional allocation schemes for most state and local tax sources—sales taxes, state income taxes, fees and licenses, among others—and to focus our efforts on developing improved strategies for allocating property taxes.

Before we move to a review of selected past studies, it may be worthwhile to outline very briefly some of the issues that underlie modern tax incidence analysis.[2] The key elements of any analysis of tax burdens are the "shifting" assumptions on which it is built. These assumptions determine the progressivity or regressivity of individual taxes and thus of the tax system.[3] The concept of tax shifting is one that few laymen accept readily. At its core is the notion that people pay only those taxes that they cannot avoid paying. Each actor in the economic system attempts to pass on his or her tax burden to others, and the study of tax incidence deals mostly with how market forces either encourage or restrict those attempts. For example, consumers are usually assumed to pay sales taxes, even though the seller is actually responsible to the state for payment; similarly, some economists argue that corporations pass on corporate income tax obligations in the form of lower wages for their employees, or higher prices to their customers.

While all actors (producers, consumers, workers, or capitalists) are assumed to want to minimize the burden of their taxes, market forces constrain their ability to do so. If workers are mobile and have the option of employment in untaxed sectors of the economy (with an unincorporated firm or in a low-tax region of the country, for example), then corporate employers will not be able to shift the burden of corporate income taxes to their labor force. And if consumers can purchase from an unincorporated firm a product that is a close substitute for a product produced by a corporation, then corporate sellers will be limited in their ability to pass on corporate taxes to consumers.

The final resting place for a particular tax depends critically on one's view of how our economy functions. Throughout this analysis, it is assumed that our economic system is competitive in the sense that individual firms and individual purchasers must buy and sell at market-determined prices. This assumption is the basis for much previous work in this area, but there are several instances in which the implications of the competitive model have not

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[1]See Phares (1980) on this point.

[2]For an excellent review of theories of tax incidence, see Break (1974).

[3]"Progressive" and "regressive" refer to the fraction of income spent directly or indirectly on tax payments; a tax is regressive if the fraction of income necessary for tax payments declines as incomes rise, proportional if all income classes pay the same fraction in taxes, and progressive if the rich pay a higher fraction than the poor.

been fully exploited. This is especially true for the allocation of property taxes, which is the topic of further discussion below.

A SELECTIVE REVIEW OF PAST STUDIES

This review is selective in two senses: First, it is concerned mainly with studies in which state and local taxes are the major issue; and second, it considers only a very small subset of articles in this area. Much of the review is contained in the rows and columns of Table 2.1, which for the most part will be left to speak for itself.

Four studies are reviewed in the table. The best known, indeed a classic in applied tax incidence analysis, is Joseph Pechman and Benjamin Okner's *Who Bears The Tax Burden, Studies in Government Finance* (1974). Because that study deals with national aggregates, it does not confront a number of the problems encountered in our study; nonetheless, the authors' tax allocation schemes and their discussion of alternative income measures are highly informative.

A second important set of studies, produced under the auspices of the Urban Observatory, were carried out in nine major cities. All considered the same basic issue: the effect on tax incidence of a shift in the financing of local public services from local to state levels. The main findings of these studies are summarized in Bahl, Campbell, and Greytak (1974); only one of the these studies is examined in detail in Table 2.1.

Financing State-Local Services by Slavet, Bradbury, and Moss (1975; hereafter referred to as the "Boston study") attempts to answer a question very similar to the question that we ask in at least two of our three states. The Boston study was concerned with the distributional consequences of a shift in the funding for Boston public services from traditional sources, especially property taxes, to state sources, especially the state income, sales, and gasoline taxes. Changes is state and local finance that took place in California and New Jersey during our study period almost exactly match this situation, so the Boston study provides a useful checklist against which to compare our work.

THE INCIDENCE OF THE PROPERTY TAX: THEORY AND PRACTICE

In the literature, two schools of thought dominate the debate on who bears the burden of property taxes. The traditional school argues that property owners are able to shift all or a large portion of their property tax obligations to those who purchase the services provided by their property. Firms are said to pass on property taxes to consumers in the form of higher prices, and landlords are said to pass on property taxes to tenants in the form of higher rents. Since consumption is a larger fraction of income for the poor than for the rich, the property tax is highly regressive under this view.

An alternative to the traditional view has received growing acceptance in the past decade (and is therefore known somewhat inappropriately as the "new view" of property tax incidence); this view is most closely associated with the names of Harberger, Mieszkowski, Aaron, and McLure. Whereas the traditional view has consumers bearing the brunt of property taxation, these authors contend that, in the final accounting, owners of real and reproducible property (capital) pay all or most of those taxes. Since the rich own proportionately more property than the poor, property taxes under this view are progressive.

Mieszkowski enhanced our understanding of the incidence of property taxes by distinguishing between the consequences of a "national average property tax" and the consequences of

Table 2.1

Characteristics of Four Tax Incidence Studies

Study	Tax Incidence		
	Property	Personal Income	Corporate Income
Pechman and Okner[a]	Personal property by value of automobiles Tax on land —By land holdings —By property income Tax on improvements —By consumers —By property income —50% consumers, 50% property income	Earners: tax payments derived from 1966 MERGE file (a merging of IRS and SEO data)	By dividends By dividends and property income Varying proportions to property income, employee compensation, and consumers
Slavet, Bradbury, and Moss[b]	Residential land: owners Residential structures: consumers Commercial —Retail 75% consumers, 25% owners; or 100% consumers —Wholesale: 75% consumers, 25% owners —Manufacturing: 50% consumers, 50% owners; 90% consumers, 10% owners Financial: —75% consumers, 25% owners	Earners: estimated using tax tables adjusted for actual aggregate tax payments	
Pharesc	In excess of 30 alternative shifting assumptions for different types of property. Range is from 100% to consumers to 100% to owners		
Bahl, Campbell, and Greytakd	Residential: housing service consumers based on housing expenditure. Nonresidential: fully shifted to consumers		

[a]Joseph A. Pechman and Benjamin A. Okner, *Who Bears the Tax Burden?* The Brookings Institution, Washington, D.C., 1974.

[b]Joseph S. Slavet, Katherine L. Bradbury, and Philip I. Moss, *Financing State and Local Service*, D. C. Heath & Co., Lexington, Mass., 1975.

Assumptions		
Sales	Other	Income Distribution
General sales tax: By consumption Special excise taxes: by consumption of alcohol, tobacco, gasoline, etc.	Payroll and Social Security: by employees	Basic series: a merged file of SEO and IRS data Adjustments: to national levels of unreported and underreported income sources
Consumers: use federal sales tax deduction figures on Form 1040, adjusted to Boston SMSA totals		Basic series: 1970 Census income information Adjustments: —For capital gains from IRS data —For underreporting from OBE data
Consumers: allocated by consumption of taxed item based on BLS Consumer Expenditure Survey	Licenses: by users	Basic series: 1975 IRS State Tax Model and Survey of Education and Income Adjustments: for underreporting using BEA's personal income series
Consumers: based on federal sales tax deduction allowances adjusted for actual tax payments		Basic series: 1970 Census income information Adjustments: —For capital gains from IRS data —For underreporting from Department of Commerce data.

[c]Donald Phares, *Who Pays State and Local Taxes?* Oelgeschlager, Gunn and Hain, Inc., Cambridge, Mass., 1980.

[d]Roy W. Bahl, Alan K. Campbell, and David Greytak, *Taxes, Expenditures and the Economic Base*, Praeger, New York, 1974.

local deviations around a national tax. He argues that the average of all property taxes imposed by localities is borne by owners of capital in general, and is not shifted to consumers; in contrast, local deviations in tax rates from this average may or may not be shifted to consumers, depending on the nature of the goods produced by capital (local or national), and the length of time over which adjustments take place. We expand on these points below, and demonstrate how property taxes will be allocated based on an extension of Mieszkowski's arguments.

Theory: Strategy of Analysis

To our knowledge, no generally accepted empirical study of the incidence of the property tax is now available, so we must use economic theory to allocate that tax among income groups. Since economic theory is better at analyzing comparative statics than it is at analyzing transitionary adjustments, our subsequent work will focus on two steady-state periods: the period preceding a fiscal change, and a final steady-state period in which all factors of production have fully adjusted to tax changes. This strategy does not mean that we will ignore transition effects, but rather that we will discuss them more heuristically than we will the beginning and end points.

Mieszkowski's View

A basic tenet of Mieszkowski's view is that a uniform property tax will be borne solely by the owners of all forms of capital, for two principal reasons.[4] First, any attempt to shift the tax burden to consumers in the form of higher prices will fail, because it will initially raise the average price level and thereby lower real wages (nominal wages divided by the average price level); if the productivity of labor remains unchanged, a lower real wage will create demand for additional labor, but since the supply of labor is assumed fixed, this new demand will simply drive up nominal wages until real wages are at their former (nontax) level (Mieszkowski, p. 76). Second, the supply of capital *in toto* is assumed to be fixed, so capitalists have no alternative uses for their funds. Rates of return will, under these circumstances, be driven down by the amount of the tax. As a result, the incidence of the property tax will be in proportion to ownership of capital by income class.

The assumptions of fixed supplies of capital and labor have been challenged numerous times in the literature.[5] Less than perfectly inelastic supplies of either capital or labor will lead to some shifting where none was assumed to occur before. In line with the bulk of previous research in this area, we assume that such shifting that does occur would not materially affect our incidence analysis.

Localities have vastly different levels of property tax rates, and these differences complicate the analysis. If they arise from variations in service levels demanded by residents, then the benefit and cost sides of the incidence picture may cancel out, and property taxes become proportional user taxes. For a number of reasons, this view is not widely held among public finance specialists, and Mieszkowski for one does not give it serious credence. Also, in our larger study, we are interested in the *direction* in which the tax system and the supply of public

[4]This is a highly simplified and cryptic version of a complex general equilibrium argument; see Harberger, McLure, or Mieszkowski, among others, for a more complete analysis.

[5]See, for example, "Research in Taxation," *The Journal of Political Economy* Vol. 86, No. 2, April 1978, especially the papers by Boskin and Feldstein.

services each drive equity, and for that reason alone we would want to consider tax and benefits sides of the public sector equation under *ceteris paribus* conditions. Differences in property tax rates give rise to so-called excise tax effects, which represent the second major thrust of modern incidence analysis.

The excise effects of property taxes stem from deviations in local property tax rates from some national average property tax rate. The effects of these deviations are labelled "excise" because they act to tax the production of goods and services produced in a particular locality, but not elsewhere. Excise effects arise because variations in local tax rates produce variations in the cost of doing business among localities. According to Mieszkowski, the final resting place for property taxes that deviate from average tax levels depends on the type of market in which businesses operate. For national markets, relatively high or low property taxes cannot or need not be passed on to consumers, because local producers must take selling prices as given. Producers in high-tax areas will have no choice but to accept temporarily lower profits in response to an above average property tax rate. If investment capital is mobile, however, producers in high-tax areas will be dissatisfied with their rates of return compared with those in other parts of the country, and capital will flow to lower-tax areas. These movements in capital will eventually bring after-tax rates of return to investments back into equilibrium. Equal after-tax rates mean that the *cost* of capital, in the sense of the return necessary to attract investment funds, will be high in high-tax areas and low in low-tax areas.

For capital used in goods and services that compete only in local markets, Mieszkowski suggests that immobile factors of production—land and possibly labor/consumers—will bear the brunt of property tax *deviations*. In part, property tax deviations will be capitalized into the value of local land; landowners in low-tax areas will benefit through higher property values, and landowners in high-tax areas will suffer through reduced property values. In high-tax areas, the cost of attracting new financial capital will be relatively high and these cost differences must either be passed on to consumers or offset by lower labor costs if local capitalists are to earn a nationally set and nationally available after-tax rate of return. In his concluding remarks, Mieszkowski says that as much as 75 percent of excise tax effects may eventually be passed on to consumers of local goods and services (housing, for example) because of their inability to avoid price increases (Mieszkowski, p. 95).

Theory: An Extension

At the heart of all incidence analysis lies the assumption that taxes are borne by those who cannot or will not avoid them. In the case of property taxes, this means that deviations from national levels of property taxes will be borne in proportion to the relative immobility of the various actors in the system. The following analysis concludes that deviations in property taxes fall on landowners, because we assume that all other actors—other factors of productions and consumers—are sufficiently mobile to avoid those taxes. Other writers assume that labor and/or consumers are at least partly immobile and therefore must pay some fraction of deviations in property taxes, but the important point is that one cannot analyze the incidence of a local property tax *without some implicit or explicit theory of migration.*

We see no strong challenges to the competitive theory of migration that underlies the following analysis, and considerable evidence in support of treating migration as the outcome of a weighing of costs and benefits associated with alternative locations.[6] Statistics are readily

[6]See, for example, DaVanzo (1980), and references therein.

available to support the notion that there is a great deal of movement into and out of localities even among families in the lower portion of the income distribution. According to a recent paper, one of every five families moves each year, on average one of every four that move crosses a county boundary during its move, and one in eight that move crosses a state boundary (Morrison, 1973).[7] In a sense, localities compete for citizens, and this competition will alter Mieszkowski's analysis of the incidence of taxes on capital used in producing local goods and services.

High-tax areas will face a higher than average cost of capital if local capitalists are to earn a nationally set rate of return on capital. At first blush, this cost differential appears likely to drive up prices of local goods and services, but the analysis can and should be carried a step further. Over the course of time, migration flows will respond to differences in prices of locally produced goods and services. High-tax areas will lose population *ceteris paribus*, and low-tax areas will attract new residents. In this instance, "*ceteris paribus*" refers principally to local public service levels. The shifting of populations among localities will shift demands for locally produced goods and services in predictable directions: down in high-tax areas and up in low-tax areas. If we ignore transportation and other adjustment costs,[8] taking this final step in the analysis does away with the distinction between local and national goods, and suggests that national competition will exist for both types of production.

One way of thinking about this competition among localities for residents is through the graphs in Fig. 2.1. In the graphs, D_j represents the number of people who want to reside in community j, given P_j, the cost or price of living in j relative to alternative communities. Subsumed in community j's cost of living are such factors as housing prices and local property taxes. The supply schedule, S_j, represents the cost of "supplying" community j to potential residents, that is, the cost of supplying the bundle of characteristics that make up community j.

Three cases are illustrated in the figure. In panel 1, the elasticities of both D_j and S_j lie between 0 and infinity; in panel 2, the demand for community j is perfectly elastic; and in panel 3, the supply of community j is perfectly elastic. As we shall see, each of these cases leads to a different allocation of property taxes in community j.

Assume, for the sake of illustration, that the mayor of community j decides one morning to impose a property tax (or to raise an existing property tax) and that no other community changes its tax structure. An increase in property taxes is equivalent to raising the price of community j relative to other communities, and, if conditions are as illustrated in panel 1, this can be represented as a leftward shift in the demand for community 1. As in the standard classroom example of the incidence of an excise tax, the extent of this downward shift depends on the relative elasticities of D_j and S_j, as does the incidence of the newly imposed property tax. In panel 1, the two elasticities are approximately equal in absolute value, and, as indicated by the two hatched areas, the burden of the new property tax is about evenly split between residents in community j and inputs into the "production" of j.

Land will bear the largest fraction of the inputs' share of the new tax because the supply of land is highly, or completely, inelastic. Capital will bear none of the burden because the supply of capital to a small jurisdiction is for all practical purposes perfectly elastic. But what of labor? Although labor's wage is assumed to be set in a national market, the fact that D_j slopes

[7]It is important to keep in mind that all moves may affect local property values, and may be affected at least at the margin by local tax differentials.

[8]Because decisions to move are generally made for reasons other than tax differentials, the fixed costs associated with moving can rightfully be ignored in an analysis of capitalization of local tax differentials. *Where* a migrant settles, however, will depend at least in part on local tax conditions.

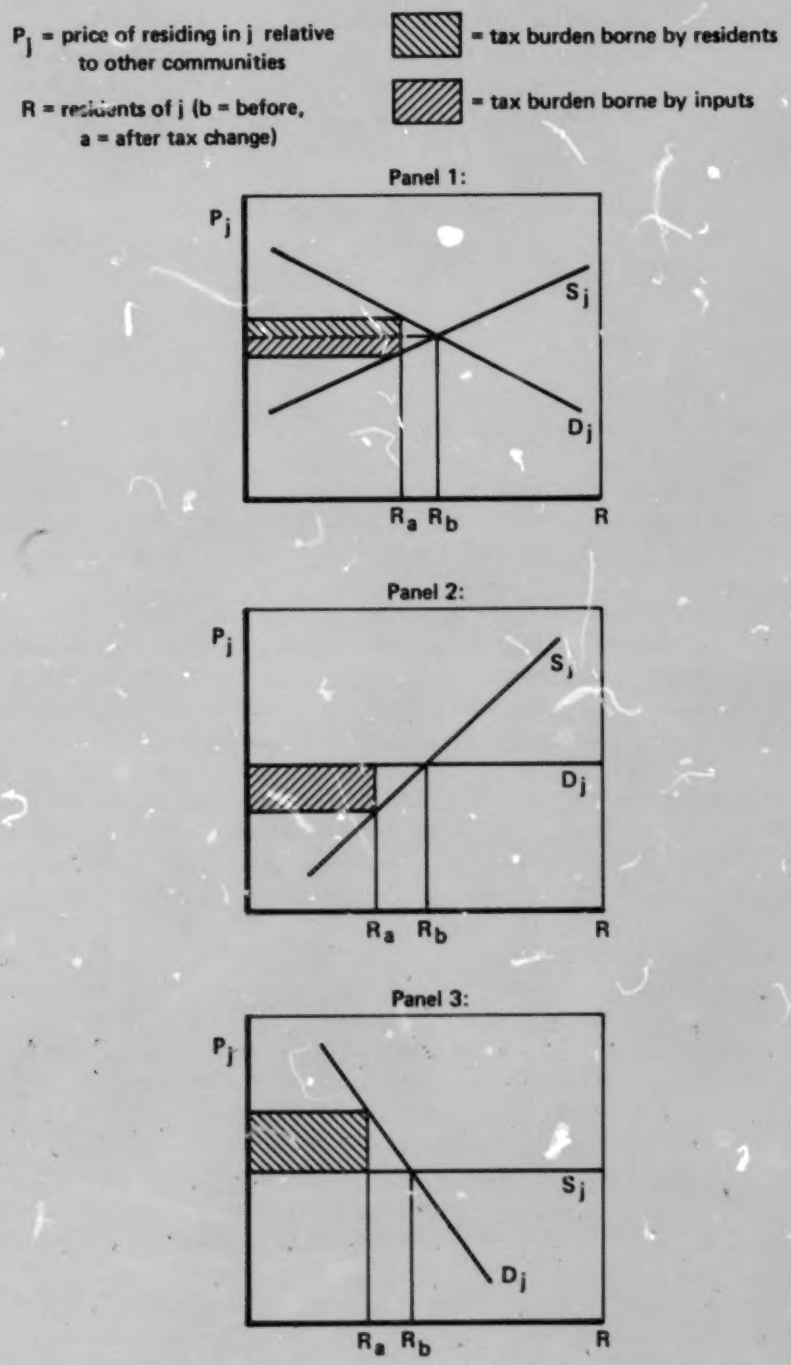

Fig. 2.1—Demand and supply schedules for localities

downward indicates that the supply of people to j is not perfectly elastic. The slope of D_j is set in part by the distribution of tastes in the population for the characteristics of j, and a slope less than infinite suggests that some residents will be earning economic rents by living in j. Those who are will remain in j even as the price of j rises. To the extent that residents and workers are one and the same, workers will bear a part of the inputs' share of the new tax, but, as the discussion below of case 3 brings out, "workers" and "residents" need not be synonymous terms.

If conditions are as represented in panel 2, the demand for community j is perfectly elastic, and, as is well known, the burden of the new tax will fall only on the inputs used in producing j. Residents of j, as such, will bear none of the tax. Among the inputs, capital will again bear none of the tax because of its perfectly elastic supply to community j. But now, the supply of labor, as reflected in demand for residence in j (D_j), is perfectly elastic also, and labor will bear none of the new tax. Consequently, under the conditions illustrated in panel 2, land will bear the full brunt of the new tax.

The case illustrated in panel 3 is the converse of panel 2. With the supply of community j perfectly elastic, factors producing j bear none of the burden of the new tax, and residents bear the full burden. There is, however, a subtle logical twist in this case. In order for S_j to be perfectly elastic, all factors that enter the production of j must themselves be in perfectly elastic supply. For this to be true in light of the downward sloping D_j schedule, we must introduce a distinction between workers and residents, with the former, but not the latter, in perfectly elastic supply to j. This may seem artificial and logically inconsistent, but we need only remember that workers may be drawn into community j from surrounding communities to see that such a distinction is reasonable.

What factors influence the elasticities of D_j and S_j? Consumer demand theory states that two factors will predominate in shaping the "demand" schedule for j. The first is the distribution of tastes in the population for the bundle of characteristics that make up j, and the second is the availability of substitutes for community j. With respect to the "supply" schedule, production theory states that the supply of a final product will depend on the supply characteristics of inputs into that product. For localities, land will be in fixed or highly inelastic supply almost by definition, and the degree of inelasticity of the supply schedule will depend on how close to population capacity a community is.

These determinants of the elasticities of D and S suggest that of the three graphs in Fig. 2.1, the second, in which the demand schedule is highly or perfectly elastic and the supply schedule is inelastic, is the most accurate reflection of reality for the incidence of a local property tax. Property taxes are levied by geographically small entities, most of which will have many close substitutes, especially among surrounding communities but also among communities in other parts of the country; the more substitutes there are for a particular community, the more elastic will be residential demand for that community.

The fact that property taxes are levied by small geographic entities also affects the elasticity of supply for typical communities. Communities approaching their population capacity will face ever-increasing congestion costs, and, therefore, rapidly rising (highly inelastic) supply schedules.

To summarize, *the more elastic is residential demand for a particular community, and the less elastic is the supply curve for that community, the greater is the proportion of property tax deviations that will be borne by factors used in the production of that community.*[9] If demand

[9]We refer here to production of the attributes that make up a particular community, not the production of goods and services that happen to take place in that community.

for a community is perfectly elastic, or the supply of that community perfectly inelastic, then all property tax deviations will be borne by local factors of production in proportion to their relative immobility (relative elasticities of supply in that community).

If local workers/consumers escape the burden of property tax differentials through competition among localities for people, who is left to bear the "excise" burden of local property taxes? Capitalists will not bear those burdens because they operate in a national capital market; local consumers and workers are protected from tax shifting to them by the potential for migration to communities with lower tax rates. We are left, therefore, with the proposition that differences in tax rates among jurisdictions must be capitalized into the value of local land—for that resource is completely immobile—and thus that the owners of local land bear the full burden or receive the full benefit of differences in property tax rates among localities.

These results may appear to depend on large-scale shifts of labor and capital in response to changes in local property taxes, but they do not. In fact, so long as land bears all deviations in local property taxes, the pre- and post-tax change distributions of all factors of production will be identical. There may be resource costs associated with the transition period, as price signals are conveyed to and digested by potential migrants and owners of capital, but these are exceedingly difficult to estimate.

It is important to note that only those who own land at the time taxes are imposed or changed bear the burden or receive the benefits from deviations in property tax rates. Arbitrage will restore returns from land ownership to levels available from other forms of investment. Consequently, after a period in which all land has changed hands, landowners will pay property taxes only in their capacity as owners of capital, and at levels based only on the national average of all local property taxes. However, so long as property changes hands mainly within the broad income classes we use in this study (see below), our incidence calculations by income classes will not be affected.

Residential Renters and Owners

The consequences of fiscal limitation for owners and renters of residential property is of considerable concern to state and local policymakers. What are the implications of the preceding analysis for renters and owners? According to the arguments given above, population mobility and an elastic demand for individual communities will mean that the price of housing services is set in a national market over the long term, and therefore that rents and thus renters *as renters* will not be affected by levels of, or changes in, property taxes. Homeowners, however, will be affected by changes in property taxes both as owners of capital (homes, plus whatever other capital they own) and as owners of an immobile factor of production, the land on which their homes are located.

The conclusion that rents are unaffected by either average property tax rates or deviations from average, holds true over a period of time long enough to allow for full market adjustment to tax rate differences. This adjustment period could be quite short—the *potential* for migration to low-tax areas may be sufficient to check any attempt to pass on property taxes to renters—but economic theory has very little to say about what will happen during this adjustment period. Intermediate conditions could differ dramatically from steady-state conditions. The short-run pass-on of property tax relief to renters through rent control legislation is one example of a transitionary phase outcome. Or, landlords may initially raise rents to offset an increase in property taxes, and tenants who cannot afford to move will have to bear those price increases until market forces and migration return rents to long-run equilibrium levels.

Practice

The preceding discussion will serve as the basis on which we allocate local property taxes among income groups. Important points in that discussion are that communities with average property tax rates will be treated as taxing capital and land, and that deviations in tax rates will be borne by owners of land in each community, with no pass-on to consumers in the long run. Based on these points, the incidence of property taxes before fiscal contraction may be calculated along the following lines:

Define:

$P_{i,j}$ = property tax burden of the ith income class, jth locality;
$k_{i,j}$ = share of all reproducible capital owned by the ith income class, jth locality;
$\ell_{i,j}$ = share of all land owned by the ith income class, jth locality;
$_j\ell_{i,j}$ = share of local land owned by local residents;
K = pretax value of all reproducible capital;
L = pretax value of all land;
t = average national property tax rate;
t_j = tax rate for the jth locality;
p_j = dollars of property taxes paid in the jth locality.

Then:

$$P_{i,j} = t(k_{i,j}K + \ell_{i,j}L) + {}_j\ell_{i,j}\{1 - (t/t_j)\}p_j \qquad (1)$$

In words, the burden of property taxes borne by the ith income class in the jth locality is the sum of two terms: (1) a term that depends on capital and land ownership by residents in j, and the average burden of property taxes for the nation (the first term on the right-hand side); and (2) a term that depends on local land ownership by local residents and on the national property tax rate relative to locality j's tax rate.[10] The first term we will refer to as the national component of the burden of property taxes, while we will call the second the local component.

An example may be useful in understanding the implications of this methodology. Assume that we are analyzing three hypothetical communities with the following characteristics:

	A	B	C
K	100	50	200
L	50	50	100
k_j	0.3	0.2	0.5
ℓ_j	0.25	0.25	0.5
$_j\ell_j$	1	1	1
t_j	0.1	0.08	0.07
p_j	15	8	21

[10]In the strict sense of the term, only the second part of Eq. (1)—the local component—is a "local" tax. The burden of property taxes that stem from the national average of all local property taxes is as much out of the hands of state or local officials as is the federal income tax.

K and L are capital and land located in each communtiy, k_j and ℓ_j are the fraction of all capital and land owned by residents in j (j = A,B,C), and the other terms are as defined above.

For simplicity, these numbers assume there is a single income class, and that all land is locally owned. Tax *payments* in each community are 15 for A, 8 for B, and 21 for C. Tax *burdens* are, according to the formula given in Eq. (1), (12.4 + 3) for A, (9.6 + 0) for B, and (22 − 3) for C. The first number in each expression is the national component of the property tax burden borne by each community's residents. The second number is the local component: the tax burden borne by owners of each community's land that arises from "excise" effects. Note that while the pattern of tax payments differs from the pattern of tax burdens among communities, the sum of both payments and burdens is 44.

Say that community A lowers property taxes to 6 percent and community C raises them to 9 percent such that the average property tax rate remains constant at 8 percent. Property tax payments are now 9 for A, 8 for B, and 27 for C. Property tax burdens are: A—(12.4 − 3); B—(9.6 + 0); C—(22 + 3). The national component of the property tax remains unchanged for every community because neither the average tax rate nor the distribution of land and capital has changed; excise effects, however, work to shift the burden of taxes away from A and to C. Landowners in A will gain by a net $6.00 per year change in tax burdens, while those owning land in C will lose by that amount.

These results are based on two assumptions: first, that land is all locally owned, and second, that land and capital ownership by the residents of each community is unchanged in the second period. The first assumption can be relaxed, as the $_j\ell_{ij}$ in Eq. (1) indicates. This term allows the burden of tax deviations to fall on local residents in proportion to their ownership of local land. The second assumption is consistent with the previous discussion of factor allocation before and after a tax change.

But what of land in communities other than, say j, but owned by residents of j, and vice versa? For land owned by the residents of one community but lying outside that community, we can and must, from an operational standpoint, assume that such land is taxed at the national average property tax rate. For land in a community owned by nonresidents, the costs of high tax rates or the benefits of low tax rates will be exported out of the jurisdiction. In the preceding notation, $(1 - {}_j\ell_{ij})$ of the local component will be borne by nonresidents.

In practice, obtaining information on the share of local land owned by local residents is among the most difficult of the tasks that we face. This measure requires a breakdown of property by real property and improvements, by residence of owner, and by income class. Parts of this puzzle are available, but some proxying and aggregation are necessary (see Chap. 4).

To calculate property tax burdens we also need the shares of all national capital and land owned by local residents (the k_{ij} and ℓ_{ij}), and the national stock of capital and land. The value of capital and land stocks may be difficult to obtain, but we will not be too far off if we substitute the distribution of income from land and capital in place of stock values, so long as rates of return are equal at the margin. Also, if the imposition of a property tax does not cause major shifts in the distribution of land and capital among income classes, the proportional representation of capital and land in the pretax world will be preserved in the distribution of earnings from land and capital in the posttax world. Thus, as will be discussed in more detail in Chap. 4, we use the share in total income flows from capital (in the posttax world) accounted for by residents in our cities to calculate the national component of the burden of property taxes.

TAX ALLOCATION: NON-PROPERTY TAXES

With the exception of the property tax, we have chosen to allocate taxes among income classes on the basis of methodologies set out in previous studies. Although we draw on a number of studies, two provided more than proportionate inputs into our efforts: the Boston study discussed above, and Phares's (1980) work on the incidence of state and local taxes. Phares's study is a sensitivity analysis, and for our purposes his extremely detailed tables and more than 70 alternative shifting assumptions provide an ample menu from which to choose our own shifting assumptions.

Besides property taxes, three other major categories of taxes must be dealt with in a study of state and local tax incidence: state income taxes, state and local sales taxes, and fees and licenses. For the most part, we propose nothing new in terms of the allocation of these taxes, but it is important to recognize the assumptions that underlie the treatment of these taxes here and throughout most of the literature on state and local tax incidence.

In the scanty literature on the allocation of state-level taxes, these taxes—mostly income and sales taxes—are treated exactly as if they were federally imposed taxes. For example, most past studies allocate state income taxes to earners in the same manner as federal income taxes. Under what conditions would this allocation of state income taxes be correct?

Federal income taxes are said to be borne by earners because they are universal and because the national supply of labor is assumed to be perfectly inelastic. Neither of these conditions is likely to hold for state-level taxes. State income taxes are not universal—some states have them and some do not, and rates of taxation vary greatly among states—nor is the supply of labor to a single state perfectly inelastic.

How can two taxes levied on populations with such different characteristics be allocated among income classes on the same empirical basis? The answer lies in the diagrams in Fig. 2.1. The more inelastic the demand for a state, and the more elastic the supply of that state,[11] the greater will be the proportion of state income taxes borne by local residents/earners. In the limit, if demand is perfectly inelastic or supply is perfectly elastic, resident earners will bear the full burden of state income taxes.

Neither of these polar cases is likely to hold in reality, but arguments can be made in support of the following contentions: The larger the geographic area under consideration, the less elastic will be the demand for that location, and the more elastic will be the supply of that location. These statements are based on two propositions: that larger geographic areas have fewer substitutes than smaller areas, and that they also have greater flexibility when it comes to expanding the bundle of services that constitute particular areas.

If our rationale for the allocation of state-level taxes rested solely on demand-side considerations, that is, on the assumption of a perfectly inelastic demand for residence in a particular state, then we would be faced with the following logical inconsistency. City landowners, according to the preceding discussion, bear the burden of deviations from the national average property tax because each locality competes *in a national market* for residents. If, however, residents of states bear state-level taxes because there is a perfectly inelastic demand for residence in each state, then there can be no national market for localities. Cities would compete for residents only within state boundaries.

There is, in fact, no logical inconsistency because our local and state allocation schemes rest on both demand and supply considerations. The demand for residence in a particular

[11]The terms "demand for" and "supply of" a state are used in the sense illustrated in Fig. 2.1, that is, to denote the demand for and supply of attributes that make up a particular state.

locality is assumed to be elastic because there are a great many (national) alternatives to that locality; the demand for a particular state is assumed to be inelastic because there are substantially fewer locational alternatives for states. In contrast, the supply of residence by localities is inelastic because most localities—certainly the ones that we deal with—are already crowded, and expansion will occur only at high cost. States are able to expand residences along a relatively elastic supply curve because they can operate at both an intensive and extensive margin.

The relationship between the demand and supply of states and cities within states may be more easily seen if we consider the following analogy. Say that an industry exists which operates only in a few states. Production cannot expand to other states because a special land type found only within the bounds of those states is necessary for the production of the industry's output. Demand for the industry's output is very inelastic, but the industry is competitive (many firms producing in each state), so demand for each firm's output is perfectly elastic.

On the supply side, firms operate at capacity, with no room for expansion from within (at the intensive margin). Thus, firm supply is perfectly inelastic *within firms*. In contrast, the industry supply curve is highly elastic. This is so because new firms come into existence when output prices rise, and supply expands along the industry's extensive margin.

Now, if each state produces a significant fraction of total industry output, the following relationships can easily be shown to hold: The demand for output from a particular state will be less than perfectly elastic, although not as inelastic as the industry demand curve; output supply for each state will be highly elastic because new firms can enter the market; the demand for each firm's output will be perfectly elastic because the industry is competitive; and, finally, the supply of output from each firm will be perfectly inelastic because firms are operating at capacity.

This is almost a standard classroom example of the relationship between industry and firm demand and supply curves. It applies without alteration to the relationship between the demand and supply of residences in particular states (the "industry") and for localities within those states (the "firms"). The implications of these demand and supply assumptions are as indicated above: State taxes will be borne by residents mainly because residential supply at the state level is very elastic, but also because residential demand for states is relatively inelastic. Local deviations from the national average of all property taxes will be borne by the owners of local land because the demand for residence in a locality is very elastic, and the supply of new residence in that locality is very inelastic.

State Personal Income Taxes

Conventional wisdom among applied public finance economists is that personal income taxes are borne by those who earn the income. In the absence of direct information on individual tax payments, researchers have resorted to one of two methods for estimating state income tax payments. The first amounts to filling in a tax return for the average income earner in each income class; the second divides an aggregate estimate of income taxes paid for a particular area (usually obtained from IRS data) among income classes according to some prespecified formula.

Several studies, notably the Boston study, employ a combination of these methods. First, an estimate of taxes paid is calculated for each income class based on state tax regulations. Then total actual taxes paid in the Boston SMSA are derived from IRS sources and divided

among income classes on the basis of each income class's proportional representation in total estimated taxes. This method has the advantage of making the numbers come out right in the sense that the total amount of income taxes allocated is known to be correct, but it raises questions about why estimated and actual tax figures are not consistent.

If estimated tax figures are off in ways that are not proportionately distributed among income classes, then this method may not produce an accurate picture of actual tax payments by income class. For example, differences may be generated from inaccuracies in estimates of capital gains taxes paid by each income class, or because the assumption usually made—that all taxpayers take standard deductions—is not correct. For both of these cases, higher-income groups will be affected more seriously than low-income groups, and in ways that make it difficult to estimate even the direction of the bias: Inaccurate capital gains will tend to make estimated taxes too low for upper-income groups, and a uniform use of itemized deductions will make them too high for lower-income groups.

State income tax information for our study was obtained directly from state tax agencies. For example, the California Franchise Tax Board publishes annual statistics on state income tax payments by income categories. These data represent actual tax payments, but confront us with a problem: determining the fraction of state income tax paid in our sample cities. Since our main concern is to compare tax burdens at two points in time, minor deviations should not distort the picture too seriously as long as we are consistent in the way we measure taxes paid.

State Corporate Income Taxes

The debate over the incidence of corporate income taxes parallels closely the debate over the burden of the property tax. The same limits apply in both instances: At one extreme, there is complete pass-on of corporate income taxes to consumers, and at the other there is none. In the applied work to follow, we adopt the view of Harberger and others that in a competitive economy owners of capital bear the burden of corporate income taxes. To do otherwise would introduce an inconsistency into our study, because the theoretical basis for our property tax allocation scheme has this result as one of its implications.

Sales Taxes

Sales taxes are the second major category of state and local taxation. Again, conventional wisdom is in basic agreement on the incidence of sales taxes: They are said to be borne by those who purchase the taxed items. Among the alternatives for allocating sales taxes, one can use standard deductions for sales taxes in federal and local tax regulations, or calculate the proportion of taxed goods and services consumed by each income class and allocate total sales tax receipts according to those proportions. A major shortcoming of the first of these options is illustrated in the Poston study. Based on federal tax tables, total estimated sales tax receipts for Massachusetts were about $64 million, whereas actual receipts from sales taxes exceeded $168 million. The Boston study assumes that the federal sales tax deduction tables are proportionately correct, and divides actual sales tax receipts among income classes on the basis of estimated receipts.

We have chosen to follow the second strategy, partly because of the groundwork that Phares has done in this area. In his 1980 study, Phares allocates sales taxes on the basis of the proportion of taxed goods and services consumed by each income class. He derives allocation series for each of the fifty states based on the Bureau of Labor Statistics' Consumer Expenditure

Survey, and we will use the relevant series for our sample states. One added advantage of Phares's efforts is that specific sales taxes—excise taxes—can be allocated using expenditures for the taxed item (liquor or cigarettes, for example), rather than being allocated on the basis of general consumption expenditures.

Fees and Licenses

Fees and licenses, the last major category of state and local revenues dealt with in this section, are for the most part excise taxes and we will treat them as such in our empirical work. Once again, we call on Phares's efforts in this regard, and use his state-level allocator series for fees and services, which are derived along the same lines as his allocator series for special excise taxes.

SELECTING AN INCOME MEASURE

The spirit of the allocation rule applied to our project was that controversial and important areas should receive the lion's share of project resources. Our choice of an income base for this study represents an exception to this rule. In choosing an income measure from which to assess tax incidence, we have simply followed the example of most past studies even though there is considerable debate in public finance circles over the appropriate income concept.

In its purest form, the study of tax incidence is, or ought to be, concerned with relative changes in individual and family welfare that a tax system brings about. Although this ideal goal has been and always will be unachievable, it is a valuable starting point for any tax incidence analysis. Among other things, it points up the need for some basis on which to measure changes in individual or family well-being that result from different forms of taxation. There is a truly enormous literature on appropriate ways of measuring welfare, or more narrowly, on the correct measure of "income." This section will do little more than mention the major controversies.

Debate on the appropriate measure of income has ranged broadly, but mostly dwells on two issues: the issue of whether one should measure actual or potential income, and the issue of the time span over which income should be measured. Measures of actual and potential income can take two extremes. The first is conventional money income, defined more or less as payments to factors of production (wages, salaries, rents, and interest), in some cases with the addition of transfer payments. At the other extreme is Becker's (1971) concept of full income, in which the total potential earning ability of an individual or household is the relevant measure of income. On the time dimension, there is considerable support for each of three points in the possible spectrum: annual income; some longer-term concept of permanent income, measured, say, over a five-year period; and lifetime income, which is the present value of an individual's expected lifetime income stream (either actual or potential).

A point sometimes overlooked in this debate is that the appropriate measure of income depends on the nature of the question being asked. If we are uninterested in transition periods —in the costs associated with movement from one steady state to another—then broader measures of income are better than narrower measures. A case in point: If one ignores the life-cycle component of income, a student with high potential income but low current income will look much like a middle-aged head of house who earns approximately the same annual income, yet in a sense, the student is merely suffering from a cash-flow problem, while the

middle-aged earner may be permanently poor. In few situations would it be reasonable to treat these two cases as equivalent.

Narrower, shorter-term measures of income partly reflect individual differences in the ability to cope with changing financial circumstances. Although capital markets work reasonably well, costs are associated with using them, and in certain cases some families may be unable to borrow at all. These conditions will affect the short-term consequences of changes in tax laws, and these short-term consequences may weigh heavily in the concerns of policymakers. In the very short run, current annual money income may be the best measure of people's ability to respond to changes in the structure of taxes, and therefore of the short-term costs and benefits associated with those changes.

Another important factor that bears on our choice of an income series is the availability of alternative measures at the state and local levels. As Phares (1980) writes,

> The plethora of aggregate tax studies done, in fact, run the gamut from narrow measures such as the IRS's adjusted gross income to more inclusive measures of money income, "broad" income, personal income, net national product, Fisher income, and even permanent income.
>
> At the state level such flexibility is *simply not an option.*

Our study is concerned with tax incidence in smaller jurisdictions than those that Phares used (cities versus states); consequently, the constraints on our use of alternative income measures are even tighter than those that Phares encountered.

Since Phares's work served as one of the more important guides for our study, and since he undertook an extensive search for alternative sources of measured income, it may be worthwhile to review briefly the income series on which he settled. Phares derived his series from three sources: the IRS's 1975 State Tax Model; the Bureau of Economic Analysis's (Department of Commerce) personal income series; and the 1976 Survey of Income and Education (SIE). His income distribution series combined the distributional information derivable from the SIE with the income-level information available in the BEA's personal income series. Since the BEA's series is designed specifically to measure unreported and underreported sources of income, Phares argues that this two-step methodology yields a more justifiable income measure and income distribution than would any single income source.

Our second principal source of guidance for this project, the Slavet, Bradbury, and Moss (1975) study of alternatives for financing Boston's local public services, used an adjusted income measure based on 1970 Census income information. Adjustments were made for capital gains and for underreported and unreported income. Total capital gains accruing to residents of the Boston SMSA were derived from IRS sources and allocated to income classes on the basis of national figures on the distribution of capital gains. Measures of unreported and underreported income were derived from the same Department of Commerce series that Phares used, and corrections were made for imputed rents, interest earnings, and some welfare transfer payments.

By way of comparison, it is useful to look at alternatives available if one is concerned with tax incidence at a national level. Pechman and Okner (1974) develop a measure of adjusted family income based initially on an income distribution from the 1967 Survey of Economic Opportunity, but adjusted to national levels of transfer payments, imputed rents, accrued capital gains, and indirect business taxes. Theirs is probably the most comprehensive income measure among the studies reviewed, but such an option is not available at the state level, let alone the local level.

Our choice of an income series was heavily influenced by a desire for comparability among

our sample cities. The most widely available income series that we were able to locate is the Population and Income Estimates for Five-Digit Zip Codes distributed by the National Technical Information Service of the Department of Commerce. The NTIS series has its shortcomings, but it is available for each of the ten cities for which we plan tax incidence studies.

For California we had a second source of information on the distribution of income: IRS data based on all federal tax forms filed in each of California's five-digit zip codes. These data served as an important check on the validity of the NTIS data. The two series did not differ markedly, giving us some measure of confidence in the NTIS data.

The NTIS measure of income approximates annual money income received by households. It therefore reflects households' ability to meet unanticipated changes in tax burdens and to weather adjustment periods during which market forces shift tax burdens to their final points of incidence. Since much of our analysis is concerned with steady-state or long-term conditions, this characteristic of the NTIS income series is less than completely satisfactory. We therefore construct an income measure based on the NTIS series but corrected for one of the missing components of that series: imputed rents on residential business property. This addition will lower effective tax rates in each income class, and may also affect relative rates among income groups. Other additions (e.g., unrealized capital gains) are desirable but not possible, given the constraints of data availability.

DISSENTING VIEWS AND OTHER CONSIDERATIONS

Since the allocation schemes given above for all state and local taxes—except property taxes—are based on what amounts to conventional wisdom, our scheme for property taxes will be the likely target of most criticism leveled at this study. To anticipate that criticism, this section reviews the treatment of property taxes in several past studies, and discusses criticism in the literature of both the new view of property tax incidence and of the process of capitalization in general.

As a point of comparison, Pechman and Okner allocate property taxes in six different ways (see Table 2.1). Only one—allocation by total property income—is consistent with the new view. Pechman and Okner do not consider at all disparities in property tax rates among communities, and they need not do so as long as households in different income classes locate themselves more or less randomly among communities with different tax rates. The real cutting edge of the new view of the property tax occurs when one is dealing with small units—localities—and not with national aggregates. This observation stands in contrast to the views expressed in several recent tax allocation studies that dismiss the issue of the new versus the old view of property taxes because the study areas were localities.

Although in many instances we follow the general outline of Slavet, Bradbury, and Moss's Boston study, details of our tax allocation schemes frequently differ considerably from that study. Most of these differences are due either to the data available for our sample cities, or to an attempt to maintain comparability among the sample cities. In one instance, however, our decision to deviate represents a major disagreement with an allocation assumption used in the Boston study. That study allocates property taxes mainly on the basis of the traditional view of property tax incidence, whereby consumers bear the brunt of property taxes in the form of price increases. The Boston study discusses the new view of property tax allocation, but in our judgment the authors' interpretation of that view is faulty.

The authors argue that a change in the Massachusetts property tax rates will not affect national average tax rates, so the burden on all capital will not change; however, because they

misallocate that burden among capitalists and landowners, their comparative analysis is off at least in a relative sense. Further, they assume that excise tax effects resulting from Boston's relatively high property tax rates will be borne in proportion to consumption by Boston residents. The arguments given above suggest that this would be an appropriate allocation only if the demand for being in Boston were highly inelastic, or if the supply of Boston (the supply of attributes that make up Boston) were highly elastic. It is difficult to make a plausible argument for either case.

In a recent paper on the allocation of property taxes in a general equilibrium framework, Paul Courant (1977) explores conditions under which the new view of the property taxes would hold. His is a highly simplified model with two factors of production, only one of which is mobile (capital); but under this model, the new view holds only under very special and unlikely functional form conditions. His model is less useful than it might be, however, because it ignores the effect of differential tax rates on the allocation of consumers, and because it offers no guidance on what ought to replace the new view.

Courant argues that the weighted average of all property tax rates is not the correct rate to apply to capitalists in estimating their losses due to property taxes. In his model, capitalists may be better or worse off under a heterogeneous system of local property taxes than under a uniform average property tax of the same yield, and therefore one cannot simply treat the loss to capitalists from the property tax system as equivalent to the weighted average of all local property taxes. Since our concern is principally with the allocation of property taxes paid among income classes, we do not face this problem directly.

However, a second problem raised by Courant is relevant to our methodology. Courant argues that under general conditions it is not possible to predict how "excise tax" effects generated by heterogeneity will affect local landowners. This may be partly due to the restrictive nature of his model. In general, we believe that our proposed methodology is as close to being reasonable as is now possible, from both a theoretical and a practical standpoint.

Criticisms of both the new view of property tax incidence and of the concept of capitalization often derive from two sources: the fact that migrants have far from perfect knowledge of tax differentials among communities, and the fact that they seldom move because of them. That migrants seldom move because of tax differentials is actually a plus rather than a minus for the arguments given above. If people moved only because of tax differentials, then fixed costs—moving expenses, ties to a neighborhood—could introduce a wedge that thwarted complete capitalization of property tax deviations. The ideal circumstance would be one in which people first decide that they are going to move, and then decide where they will move. So long as a tax differential is *one* of the factors that enters *some* migrants' decisions on where to move, capitalization will eventually occur. The more migrants in a particular year whose relocation decisions are partly based on local tax differentials, the faster is capitalization likely to occur. But occur it will, so long as those who do not consider tax differentials do not act perversely by moving to a community only because it has higher than average property tax rates.[12]

Imperfect information on tax differentials among communities may lead to less than complete capitalization for a particular community, but not for communities in general. This is so because for every migrant who mistakenly moves to a high-tax community, and therefore drives land values in that community above perfect-information levels, there is equally likely to be a migrant who does not move to a low-tax community, leaving land values in that community below perfect-information levels. Unless information is imperfect only for certain

[12]Here, "only" means that public service levels and so forth are not higher in this community than in other similar communities with lower tax rates.

types of communities, these errors in judgment will be offsetting in the aggregate. Imperfect information will therefore introduce "noise" into the capitalization process, but there is no reason to believe that this noise will systematically produce incomplete capitalization on average.

Several studies point up the fact that in the short and perhaps the intermediate run, land is not the only fixed input; in the very short run, all factors will be immobile. It is important here to recognize that our study deals with the demand for capital and labor *within a particular jurisdiction;* it is not concerned with aggregate supply elasticities for various factors of production. Even if aggregate supply elasticities for labor and capital are very inelastic, local supply elasticities are likely to be highly elastic. In the short run the most likely candidates for immobility are buildings and structures—improvements made to land. Just as landowners may gain or lose from capitalization when a property tax is changed, so in the short run may owners of buildings and improvements. However, since most landowners will also be the owners of improvements on their land, our decision to allocate the excise effects—the local component—of the property tax to landowners will produce a generally accurate picture.

As we argue elsewhere, a key assumption in our property tax allocation scheme is that the burden of the property tax ultimately falls on factors of production or consumers who cannot avoid the burden. This immobility argument is generally recognized by writers in public finance, but few carry it to its logical conclusion. For example, a recent study by Inman and Rubinfeld (1979) argues that full capitalization will not result for two reasons: "life-style preferences" and zoning barriers.

Life-style preferences are one of the factors that determine the shape and position of the demand curve for residence in a particular community, but, as argued above, they are not the only factor. So long as close substitutes exist for a particular community, potential residents will not be burdened with property taxes through higher prices for local goods and services. Any attempt to impose the burden on them will lead them to migrate to other similar communities; the rejected community will experience an eventual decline in the demand for local goods and services, and a parallel decline in property values.

The second argument, that "zoning barriers can prevent low and middle income families who live in the central city or in small tax base suburbs from moving into wealthy suburban communities" (Inman and Rubinfeld, p. 1685), is in fact an argument in favor of capitalization. While zoning may shift the demand for a community, its most direct effect will be on the supply of that community. In the limit, zoning will produce a perfectly inelastic supply curve for a particular community (no new residents will be admitted unless old residents leave). A perfectly inelastic supply curve implies that *all* property tax deviations will be capitalized into land values, regardless of demand conditions for that community.

In an important extension of Mieszkowski and Harberger, Hamilton (1976) also argues that the ability of residents to control community characteristics through zoning will affect the analysis of property tax incidence. Hamilton bases his argument on the assumption that, within a community, property taxes are progressive because the rich pay more in property taxes than the value of public services received, while the poor pay less and receive more. If so, the rich will find it in their interest to exclude the poor from their community, thereby lowering their property tax obligations. If sufficient numbers of communities exclude poor families through, say, minimum-lot-size zoning regulations, the aggregate supply of housing to the poor will shrink, and the poor will pay more for housing than they would have in the absence of property taxation. In the final accounting, the rich and the poor will "get what they pay for" in the sense that both will receive in public services what they pay in property taxes, but the poor will pay more for housing services than they would otherwise.

The strength of Hamilton's argument depends on the relationship between zoning regulations and the aggregate supply of housing to the poor. While Hamilton's zoning effect may operate locally and in the short run, mobility and the wide array of housing for the poor in most large jurisdictions will blunt this effect nationally and over the longer run.

The recent work of Meyer and Quigley (1977) is a second example of a study that recognizes factor mobility but denies complete capitalization. Meyer and Quigley cite three reasons why, even in a world of complete factor mobility, the full capitalization of property tax differentials will not occur: (1) the demand for land by tax-exempt institutions; (2) the demand for services by those who receive more from the public sector than they pay into it, principally the poor; and (3) the ability of providers of services with highly inelastic demands to pass on property taxes to consumers.

All three arguments are flawed. The first two are based on the implicit assumption that services provided by municipalities and local jurisdictions are constant in total, or on a per capita basis, or both. But the influx of tax-exempt institutions into a jurisdiction will have one of two effects. Either services will decline as the tax base declines, or property tax rates for nonexempt properties will rise to high enough levels to offset the decline in the taxable property base. A similar argument holds in the case of an influx of low-income families: Either services per capita will decline or tax rates will rise. These outcomes affect the desirability of one jurisdiction relative to alternatives, and capitalization is just as likely to occur under these as under other circumstances.

The third argument fails to recognize that, just as local property tax differentials will affect the desirability of one jurisdiction relative to others, so too will the price charged for provision of local public or private goods and services. It matters not at all that public utilities are local monopolies or that the demand for their product is inelastic, so long as the population is mobile and close substitutes for communities exist either locally or nationally. Under these conditions, differences in the prices charged for locally provided public services such as water, sewage, and electricity will, themselves, be capitalized into the value of land.

Chapter 3

DESCRIPTION OF FISCAL LIMITATION PROVISIONS AND STUDY SITES

Tax limitation programs in Kansas, New Jersey, and California typify current efforts throughout the United States to limit taxation, to cut back government expenditures, and to restrict future government growth.[1] Originally enacted in 1970, Kansas's "Tax Lid Law" imposes an aggregate limitation on all property tax levies. Instituted in 1976, New Jersey's "Cap Law" places a 5 percent limit on annual increases both in county property tax revenues and in municipal expenditures. Passed by voters in 1978, California's Proposition 13 is the archetype of the cutback approach. Because it forces an actual reduction in taxes and spending, it is the most restrictive of the three measures. The programs in all three of these states have existed long enough for us to collect the kind of data needed to assess their impact on tax burdens. Table 3.1 shows the major characteristics of each of these programs.

This chapter discusses in more detail the provisions of the laws summarized in Table 3.1, and delineates the characteristics of the states and cities of our case studies. The intent is to provide a broad description of the settings in which the changes take place that we analyze in later chapters. Tables 3.2, 3.3, and especially 3.4 provide a brief comparison of the study sites.

SELECTION OF STATES

California, Kansas, and New Jersey were chosen for analysis because of the diversity they represent, but there is one similarity in the fiscal constraints of all three: They all legislated fiscal change involving a shift in public service financing from local property taxes to state-level tax sources, especially state income and sales taxes. In California, however, these legislated changes took place in a climate of overall fiscal strength; in New Jersey, legal changes in revenue sources were made in the face of serious declines in property tax bases; and in Kansas (and to a lesser extent in New Jersey) exceptions and exemptions took much of the "punch" out of the legislation.

The three states are in three distinct geographic regions—the plains, the east, and the west—and they have three different kinds of economies—agricultural, industrial, and a mixture of agricultural and industrial. Between 1970 and 1980, Kansas experienced a slow, steady population growth of about 5 percent, New Jersey's rate was about 2.7 percent, and California enjoyed a population surge of about 18.5 percent. Kansas is a medium-sized, mostly rural state; New Jersey is a small, mostly urban state; California is a large state that mixes both rural and urban communities, though its population is predominantly urban.

Tables 3.2 and 3.3 juxtapose characteristics of these three states. By 1977-78, consistent with national trends, all three states had come increasingly to rely on federal and state aid to finance local governments. Property taxes played a varying role. In Kansas, a low-taxing and low-spending state, local governments received 38 percent of their revenues from property

[1]For a detailed examination of current tax limitation programs, see Ellickson (1979) and Pascal et al. (1979).

Table 3.1

The Fiscal Limits at a Glance

Kansas Tax Lid Law	New Jersey Cap Law	California Proposition 13
Official Name		
K.S.A. 79-5001 through 79-5018 (HB-2051 and HB-1825); passed March 27 and April 3, 1970.	Chapter 68 of N.J. Public Law 1976; passed August 18, 1976.	Article XIIIA added to state constitution by voter initiative; passed June 6, 1978.
Main Provisions		
Aggregate property tax may not exceed the base year (either 1969 or 1970) amount. Property tax rate may be applied to increased valuations of new improvements on real estate, thus allowing local unit to increase revenues above base year amount. 5 percent expenditure growth limit (eliminated in 1973).	5 percent limit on annual increases in county property tax levies. 5 percent limit on annual increases in municipal appropriations.	Limits taxes on residential, commercial, and business property to 1 percent of 1975-1976 market value. Limits property tax assessments to no more than 2 percent per year. Permits property to be reappraised at market value when it changes ownership or is newly constructed. Prohibits state and local governments from passing new ad valorem property taxes.
First Year in Effect		
Calendar year 1971	Calendar year 1977	Fiscal year 1978-1979
Jurisdictions Affected		
Counties and cities (unified school districts and community junior colleges were affected until 1977).	Counties, municipalities	All property-taxing jurisdictions
Elections, Appeals, Home Rule Provisions		
As of 1977, any county or city may exempt itself from lids under its home rule authority. Levy limit may be suspended with approval of local voters. Local governing body may appeal to the Board of Tax Appeals to exceed levy limit.	Under principle of home rule, a municipality can increase expenditures with local voter approval. Can exceed cap by up to 3 percent of current and utility operating appropriations, by ordinance if approved by two-thirds vote and the local finance board.	Requires two-thirds local vote for imposition of new taxes. Requires two-thirds legislative vote for changes in state taxes.
Major Exemptions		
Levies for payment of principal and interest on bonds; employer contributions under Social Security, retirement programs, and Workmen's Compensation. Some exemptions for specific jurisdictions.	Exempts municipalities with tax rate of $.10 or less per $100 of assessed value. Expenditures exempted: —Non-property-tax-funded capital expenditures. —Debt service. —Preceding year's deficit. —Post-August 1976 federal and state mandates. —Water, sewer, solid waste, or senior citizen housing contracts. —Programs funded wholly or in part by federal or state funds. —Reserve for uncollected taxes. Revenues added on to cap limit: —Assessed value of new construction or improvements multiplied by preceding year's municipal purposes tax rate. —New or increased service fees. —Sale of municipal assets.	None.

Table 3.2

STATE AND LOCAL GOVERNMENT TAXES AND EXPENDITURES

Item	United States	Kansas	New Jersey	California
Estimated population, 1978 (millions)	217.517	2.347	7.315	22.314
State and local government taxes per $1000 of personal income, 1977-78[a]	$127.53	$112.88	$124.19	$157.99
Actual property tax[b] rate per $100 market value in 1978	$1.69	$0.82	$2.90	$2.21
Per capita direct general expenditures of state and local governments, 1977-78	$1,355.15	$1,286.96	$1,402.00	$1,654.00

SOURCE: Bureau of the Census, *Governmental Finances in 1977-78.*

[a] This is not a measure of tax incidence or burden as described in Chap. 2. Rather, it is a rough measure of the overall level of taxes, formed by dividing total tax collections in each state by a census estimate of total personal income in the state.

[b] Actual property tax rates are calculated. See Chap. 4.

taxes, and the actual property tax rate[2] was a low $.82 per every $100 of market value. In New Jersey, a relatively moderate taxing and spending state, local governments relied on the property tax for almost half of their revenues, and actual property tax rates were a high $2.90 per $100 of market value. California has relatively high tax and spending rates, while its local governments depend upon the property tax for only one-third of its revenues and the actual property tax rate at $2.21 per $100 of market value is lower than New Jersey's.

SELECTION OF CITIES

Within these three states, we chose ten cities to study: Kansas City and Wichita in Kansas; Camden, Newark, East Orange, and Montclair in New Jersey; and Oakland, Cerritos, Compton, and Los Angeles in California. These cities were chosen because they reflect the wide diversity of American cities. (See Table 3.4.) They range in population (1980 Census) from a low of 38,321 in Montclair to a high of 2,966,763 in Los Angeles, and in area, according to 1979 figures, from 3.9 square miles in East Orange to 463.9 square miles in Los Angeles. In 1980, their black populations varied from 8 percent in Cerritos to 84 percent in Compton, and their

[2] The actual property tax rate is the total amount of property taxes collected divided by the total market value of the property.

Table 3.3

REVENUE OF STATE AND LOCAL GOVERNMENTS BY SOURCE, FISCAL YEAR 1977-78

Item	State Governments				Local Governments			
	U.S. Total	California	Kansas	New Jersey	U.S. Total	California	Kansas	New Jersey
Total revenue[a] (in $ million)	192,449.3	23,866.6	1,730.8	5,833.3	211,444.2	30,506.0	2,020.9	7,125.9
Revenue source (% of total)								
Intergovernmental								
From federal govt	26.0	25.3	25.0	25.0	9.2	7.5	6.4	8.0
From state govt	0	0	0	0	30.6	32.3	21.3	26.5
From local govt	1.7	3.0	1.0	1.7	0	0	0	0
Total	27.8	28.3	26.0	26.7	39.8	39.7	27.7	34.5
Own source								
Property taxes	1.2	2.2	1.0	1.4	30.3	34.3	38.0	47.9
Sales taxes	18.3	20.9	20.2	17.2	2.9	3.4	0.8	0
Motor fuels taxes	4.9	3.6	7.2	5.1	(b)	0	0	0
Motor vehicle licenses	2.3	1.6	3.7	3.7	0.2	0	(b)	0
Income taxes[c]	20.7	28.1	21.4	20.2	1.9	0	0	0
Other taxes	11.3	6.6	7.4	2.7	2.7	2.7	1.8	5.9
Current charges	7.0	5.2	10.0	10.0	10.0	8.3	11.4	6.4
Interest earnings	2.3	2.2	2.6	1.8	1.8	2.0	2.0	1.4
Miscellaneous revenue[d]	4.0	1.4	0.7	10.4	10.4	9.4	11.5	3.8
Total	72.2	71.7	74.0	73.3	60.2	60.3	72.3	65.5

SOURCE: Bureau of the Census, *Governmental Finances in 1977-78*, GF 78, No. 5, February 1980, pp. 18, 20, 23.

[a]Exclusive of Insurance Trust Revenue.

[b]Less than 0.05 percent.

[c]Includes both individual and corporation income taxes.

[d]Liquor store revenue, utility revenue, and other miscellaneous sources.

Table 3.4

Selected Statistics on Case-Study Cities

Item	Kansas			New Jersey					California				
	State	Kansas City	Wichita	State	Camden	East Orange	Montclair	Newark	State	Cerritos	Compton	Los Angeles	Oakland
Population													
1970 census	2,249,071	178,885	276,554	7,171,112	102,551	75,471	44,043	381,930	19,971,069	15,856	78,547	2,811,801	361,561
1980 prelim census	2,363,208	161,087	279,272	7,364,158	84,910	77,025	38,321	329,248	23,668,562	52,756	81,286	2,966,766	339,288
% change	5.1	-9.9	1.0	2.7	-17.2	2.1	-13.0	-13.8	18.5	232.7	3.5	5.5	-6.2
% black (1980)	5.3	25.3	10.8	12.6	53.0	83.5	28.9	58.2	7.7	7.9	74.8	17.0	46.9
% Hispanic origin	2.7	4.9	3.5	6.7	19.2	2.3	2.1	18.6	19.2	14.2	21.1	27.5	9.6
Per capita income (1977 estimate)	$5861	$5331	$6344	$6492	$3890	$5734	$9648	$4038	$6487	$6787	$3431	$6661	$6397
% families with money income below poverty level, 1969	9.7	10.1	8.2	6.1	16.1	8.1	5.3	18.4	8.4	2.3	17.1	9.9	12.2
Area (in square miles)													
1970	82,264	56.8	86.5	7,836	9.0	3.9	6.2	23.5	158,693	8.7	9.5	463.9	53.4
1979	82,264	111.4	101.4	7,836	9.0	3.9	6.2	23.5	158,693	8.7	9.5	463.9	53.4
% of revenues from property tax, 1978	n.a.	44.6	42.6	n.a.	26.5	59.7	59.9	24.5	n.a.	1.2	12.1	16.1	8.9
% of revenues from federal and state sources 1978 (or 1978-79)	n.a.	21.6	39.8	n.a.	62.1	34.1	24.2	60.7	n.a.	30.6	67.6	32.7	50.3
Actual property tax rate													
Pre-limit[a]	1.60	1.93	2.57	3.24	4.93	6.75	5.10	5.19	2.48	2.70	2.99	2.85	3.32
Post-limit[b]	0.82	1.62	1.23	2.90	4.11	6.91	4.86	4.85	0.99	1.08	1.23	0.99	1.12

SOURCES: U.S. Bureau of the Census, *1970 Census of Population*, and the preliminary figures from the 1980 Census; Rand survey.

[a] 1969 in Kansas, 1974 in New Jersey, 1975-76 in California.

[b] 1978 in Kansas, 1978 in New Jersey, 1978-79 in California.

Hispanic populations ranged from 2 percent in East Orange and Montclair to 28 percent in Los Angeles. According to 1977 estimates, per capita income varied from $3,431 in Compton to $9,648 in Montclair.

Their revenue sources vary dramatically in relative importance. The percentage of revenues from property taxes in 1978 ranged from 1.2 percent in Cerritos to 59.9 percent in Montclair, and the percentage of revenues from other governmental bodies from 21.6 percent in Kansas City to 67.6 percent in Compton. The total pre-fiscal-limit actual tax rates levied by all jurisdictions for city residents varied from $1.99 per $100 market value for Kansas City to $6.75 per $100 of market value for East Orange.

KANSAS

By the time Kansas enacted its "tax lid" in 1970, it had been experimenting with such limitations for a little over a hundred years. During the mid-1960s, the rapid increases in property tax rates became an active political issue, and successful gubernatorial candidate Robert Docking proposed limits on property tax revenues. As a result, in 1970 a temporary 3-year law was passed that imposed an aggregate limit on all property tax levies and a 5 percent annual limit on all expenditure growth. These restrictions applied to all cities, counties, community junior college districts, and unified school districts. In 1973, Kansas indefinitely extended the property tax lid but exempted community junior college districts and eliminated the expenditure limit. Voters were also empowered to impose county, and under certain circumstances, city sales taxes. In 1977, unified school districts were exempted from the tax lid.

The tax lid law itself exempts from its control a number of functions and jurisdictions, the most important being:

- Special assessments;
- Retirement systems for fire, police, and public employees;
- County ambulance services; and
- Services for the elderly that were created by petition or referendum.

In August 1977, the state's attorney general pulled most of the teeth out of the law by ruling that since it did not uniformly apply to all cities and counties, any city or county could exempt itself from the tax lid by passing a charter ordinance with a two-thirds vote of its legislative body. By the end of June 1979, at least 58 cities and 29 counties had done so.[3] Some exempted themselves entirely from the law while others chose to exclude from its coverage specific services such as public safety, fire protection, and employee benefits.

Cities and counties that do not pass charter ordinances may nonetheless also exempt themselves completely or partially through referendum measures. In Kansas, *general* tax lid referendums have allowed local jurisdictions to suspend the tax lid for a number of years, and *special* tax lid referendums have authorized tax levies for special purposes while keeping the rest of the tax lid intact. Between 1970 and 1976, cities passed two of the nine general tax referendums they held. No county held a general tax referendum during this time. Cities have commonly passed special referendums to levy taxes for industrial development, and counties have passed them for road improvement. Between 1970 and 1976, 87 cities and counties held special tax lid referendums, with 65 approved and 22 rejected.[4]

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[3]But not Kansas City or Wichita nor the counties in which they lie.
[4]The League of Kansas Municipalities, June 8, 1976, Urban Information Report No. 108.

For those cities and counties that did not exempt themselves, the current tax lid limits the aggregate amount, in dollars, that they may levy for funds or purposes that are not specifically exempt from the lid. This aggregate tax may not exceed the amount levied during the base year (either 1969 or 1970) unless it is justified by increases in the valuations of new construction (not including an increased land value resulting from such construction) or in the valuations of personal property. If the assessed valuation declines, however, the city or county need not proportionally decrease its tax collections.

This tax limitation does not affect levies made by a city or county for another entity, such as a library board that may not levy taxes on its own behalf and whose budget is not controlled by that city or county. Levies made for such entities are, however, subject to individual statutory rate limitations.[8]

Property Tax Administration

In Kansas, the county appraiser assesses property, whereupon the county treasurer collects and then redistributes taxes to the local jurisdictions. The Division of Property Valuation of the Department of Revenue supervises all assessments, while the state legislature establishes the tax base and sets up the administrative mechanism for determining the value of that base.

Kansas law provides that property should have an assessed value equal to 30 percent (plus or minus 10 percent) of its fair market. Since 1969, however, the state has experienced a declining assessment/sales ratio so that now the median assessed value equals 8 percent of the actual market value.

Kansas only infrequently reappraises real estate. The last countywide reappraisal in Wyandotte County, where Kansas City is located, occurred in 1971. In Sedgwick County, home of Wichita, it happened in 1964. In the absence of countywide reappraisal, the total county assessment figures increase by the value of any individual reappraisals (usually due to appeals lodged by owners) plus the value of all new construction and improvements. Thus total assessed values rise from year to year, but they do not reflect the total increase in the market value that occurs.

Pre- and Post-Limit Years

We selected 1969, two years before the tax lid law was implemented, as the base year for our analysis. We chose this year rather than the year immediately preceding implementation (1970) to avoid any changes in local tax structure that may have been made by officials in anticipation of the lid law. 1978, the most recent calendar year for which we have comprehensive data on revenues and expenditures, was selected as the post-limit year to be studied. Table 3.5 presents a general summary of local and state revenue sources for Kansas in 1969 and 1978.

Study Sites: Kansas City and Wichita

We chose the two most populous cities in Kansas for our analysis. Each has annexed land since the passage of the tax lid law. Kansas City roughly doubled its total assessed property valuation through a large annexation in 1972. Gradually, between 1969 and 1978, Wichita's

[8]Heim (1979, pp. 77-81).

Table 3.5

KANSAS STATE AND LOCAL GOVERNMENT REVENUES BY SOURCE, 1969 AND 1978
(In $ million)

Source	1969 State $	1969 State %	1969 All Local $	1969 All Local %	1978 State $	1978 State %	1978 All Local $	1978 All Local %
Intergovernmental								
Federal	172.9	24.9	19.8	2.2	450.9	23.5	163.6	8.3
State	0	0	249.6	28.5	0	0	479.0	24.2
Total intergovernmental	172.9	24.9	269.4	30.7	450.9	23.5	642.6	32.5
Own source								
Property	9.5	1.4	443.8	50.6	16.7	0.9	829.3	42.0
Sales	137.4	19.8	---	---	349.2	18.2	20.9	1.1
Income	102.0	14.7	0	0	410.3	21.4	0	0
Motor fuel	64.6	9.3	0	0	133.5	7.0	0	0
Motor vehicle	30.2	4.3	0	0	60.8	3.2	1.1	0.1
All other taxes	63.4	9.1	12.7	1.4	177.9	9.3	41.4	2.1
Total taxes	407.1	58.6	456.5	52.1	1148.4	59.9	892.8	45.2
Other revenues[a]	115.0	16.6	150.5	17.2	317.1	16.5	439.8	22.3
Total own source	522.1	75.1	607.0	69.2	1465.5	76.5	1332.7	67.5
Total general revenue	695.0	100.0	876.3	100.0	1916.4	100.0	1975.3	100.0

SOURCES: Kansas Department of Revenue, *Annual Financial Report of the Division of Accounts and Reports*, and U.S. Bureau of the Census, *Governmental Finances* Series, GF 5, Table 5.

NOTES: Local revenues are for the calendar year, state revenues are for the fiscal year. Local includes municipalities, counties, and special, community college, and school districts.

[a]Includes charges, licenses, fees, fines, permits, use of money, and other miscellaneous revenue.

total assessed value grew roughly 10 percent through annexation. Since 1970, however, Kansas City's population has declined more than 10 percent, with most of the drop occurring before 1975. Wichita's population increased about 1 percent during the decade. Kansas City's black population amounts to more than 19 percent; that of Wichita, less than 10 percent.

Each city's budget consists of separate funds that receive property tax collections based on separate, individual tax levies. These funds are not all subject to the limits of the tax lid. Residents in both cities had their property tax burdens lightened in 1974 when the state took over the counties' contributions to public welfare.

The revenue structures of the two cities differ in a number of important respects. The differences, and the change in revenue structure that occurred in the cities between 1969 and 1978, are highlighted in Table 3.6. In 1978, although property taxes accounted for about 44 percent of each city's revenues, two-fifths of Wichita's revenues and only one-fifth of Kansas

City's came from state and federal sources. Kansas City legally may expand its property taxes since at present it collects only about 80 percent of its allowable limit. Currently, Wichita is almost at its limit. Also, Kansas City has a revenue source that Wichita lacks: It receives more than 80 percent of Wyandotte County's sales tax, contributing 5 percent of Kansas City's total revenues. Though both cities and the counties in which they are located have the option to levy local sales taxes, only Wyandotte County has done so, its voters having passed a 1/2 percent sales tax that became effective in January 1976.

Table 3.6

GENERAL REVENUES OF KANSAS STUDY SITES BY SOURCE, 1969 AND 1978
(In $ thousand)

	Kansas City				Wichita			
	1969		1978		1969		1978	
Source	$	%	$	%	$	%	$	%
Intergovernmental								
Federal	693	3.1	4,532	9.3	5,123	16.1	27,715	32.5
State	1,845	8.4	4,026	8.2	1,631	5.1	6,210	7.3
Local	8	0	2,027	4.1	0	0	0	0
Total intergovernmental	2,546	11.5	10,585	21.6	6,753	21.2	33,925	39.8
Own source								
Property and special assessment	12,234	55.8	21,847	44.6	19,797	62.1	37,044	43.4
Local sales	238	1.1	2,516	5.2	0	0	0	0
Total taxes	12,562	56.9	24,363	49.8	19,797	62.1	37,044	43.4
Charges	454	2.1	692	1.4	506	1.6	2,084	2.4
Franchises, licenses, fees, permits, and penalties	1,024	4.6	2,018	4.1	3,946	12.4	8,550	10.0
Use of money	675	3.1	1,731	3.5	798	2.5	1,736	2.0
Other revenues	4,822	21.8	9,552	19.5	98	0.3	1,873	2.2
Total, own source	19,537	88.5	38,356	78.4	25,145	78.8	51,287	60.2
Total revenues	22,083	100.0	48,940	100.0	31,898	100.0	85,212	100.0

SOURCES: *Kansas City Annual Audit Report*, and *Wichita Annual Controller's Report*, 1969, 1978.

Kansas City narrowly rejected a tax limitation measure in 1976 that, if passed, would have limited the aggregate, citywide property tax levy to $4.00 per $100.00 of assessed valuation, lowering the 1976 rate by more than 38 percent. In addition, Wyandotte County voters in April 1980 soundly defeated an earnings tax that was meant to reduce the property tax burden. Voters in Wichita and Sedgwick County have not been so active.

NEW JERSEY

New Jersey has been a prosperous state historically, ranking for the past half century among the top six in per capita income. But the recessions of the 1970s brought both an unemployment rate well above the national average and an awareness of increasing economic decline, a decline that is particularly evident in Newark and Camden.

In this economic environment New Jersey has radically changed its tax structure. In 1972, for example, the New Jersey Supreme Court directed the state legislature to provide greater equality in funding for the then primarily property-tax-supported public schools.[6] The Tax Reform Program of 1976 came out of these attempts to achieve equality in funding of local education and to provide property tax relief. This program has a number of key features:

- The state's first gross personal income tax, enacted July 8, 1976, generates revenues specifically earmarked for school finance and property tax relief (P.L. 1976 c.47).
- A Homestead Rebate Program, enacted at the same time, provides to homeowners a direct property tax rebate that is funded by income tax collections. The state also assumed the burden of property tax credits for senior and disabled citizens and for veterans.
- A Cap Lid Law, enacted August 18, 1976, provides statutory control over increases in the local property tax by restricting the growth of municipal expenditures and county revenues (P.L. 1976 c.68).

The focus of our New Jersey study, the Cap Lid Law, imposes a 5 percent limit on annual increases in municipal appropriations and a 5 percent limit on annual increases in county property tax levies.[7] Property taxes range between zero and 90 percent of total city revenues while they constitute between 50 and 70 percent of total county revenues.[8]

New Jersey's Cap Lid Law became effective at the beginning of 1977, and was extended beyond its original expiration date of December 31, 1979. As Table 3.1 states, it provides for a number of specific exemptions but, unlike Kansas, these do not include employee retirement programs. In addition, the New Jersey Supreme Court in 1979 upheld a superior court ruling that awards made to uniformed personnel through binding arbitration are not exempt from the cap limitations. Thus, municipalities must absorb all such binding salary and benefit increases.

As in Kansas, any municipality may with the approval of its voters increase expenditures beyond the cap limit. During 1977 and 1978, 7 out of 17 municipalities successfully passed measures to override the cap limit. In 1979, voters approved 13 of 32 referendums aimed at lifting the cap limit. None of the cities we study have overridden the limit.

The Cap Lid Law also exempts municipalities that have a tax rate of $.10 or less per $100 of assessed value. Usually, such municipalities are small and rural and receive large amounts of nonproperty tax revenue, or they provide minimal services and therefore require little property tax income to support their budgets. Of New Jersey's 567 municipalities, 54 were exempt in 1977, 108 in 1978, and 113 in 1979. None of our four sites have been exempted.

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[6] *Robinson vs. Cahill*, 118 N.J. Super. 223, 250, 287 A2d 187, 201 (1972).

[7] The rationale for "capping" expenditures for municipalities rather than property tax levies is that municipalities, unlike counties, are not uniformly dependent on the property tax.

[8] *Report of the Joint Committee on Tax Policy*, June 1979, p. 85.

Property Tax Administration

In contrast to what happens in Kansas and California, *the municipalities* in New Jersey assess, collect, and then allocate property taxes to counties, school districts, and special districts. Each county board of taxation determines how much municipalities must raise for the county on the basis of the municipality's proportion of the market value of all ratable property in the county—and not on the proportion of all taxes actually collected. This hurts taxpayers in cities like Camden and Newark, where delinquency rates are high; the taxpayers who do pay must pay more than their counterparts in the suburbs, where delinquency rates are lower.

Since 1974, cities have been legally required to assess property at 100 percent of its market value. Before that time, they could assess at 10 percent intervals beginning with 20 percent of the total market value.[9] Reassessment should occur every three to four years, as the gap between assessed and market values grows to a size which, by state law, is prohibited. As in Kansas, however, local authorities have often been laggard. Camden has not reassessed property since 1959, East Orange since 1974, Montclair since 1974, and Newark since 1963. Such differing timetables for assessment have led to varying assessed-to-market-value ratios throughout the state.

Pre- and Post-Limit Years

We selected 1974, two years before the Cap law took effect, as the base year for our analysis, and we end with 1978, the most recent calendar year for which we have comprehensive tax data. Table 3.7 shows the tax and revenue systems in the two years.

Study Sites: Camden, Newark, East Orange, and Montclair

Camden borders on Philadelphia in the southwest section of the state, while the other three study sites—Newark, East Orange, and Montclair—lie in the shadow of New York City in the northeast corner. Camden is a working-class city in Camden County. Montclair and East Orange are suburbs of Newark in Essex County. Table 3.8 shows the tax and revenue system in each city before and after the Cap Lid Law was instituted.

Camden. Camden has been in sharp decline since the 1950s. Many of its industries and residents have fled, and the consequent abandonment of property and shrinking of property values have severely strained local revenue sources. State and federal monies, now almost two-thirds of total city revenues, have been used extensively to construct civic buildings in downtown Camden. Intended to anchor the remaining core of the city, these buildings have helped revitalize the city, but they have directly added little to local revenues since they are exempt from property taxes.[10]

Since 1974, the city tax rate has remained steady as assessed property values have declined. By 1978, collected property tax revenues had actually dropped. Additional local revenues have been raised through the sale of assets acquired from delinquent taxpayers. This source too has now diminished. Unable to adhere to the constraints of an approved budget that was below the

[9]New Jersey League of Women Voters, *New Jersey Spotlight on Government*, 1978, p. 116.
[10]Camden receives a nominal payment from the state in lieu of property tax on state-owned buildings.

Table 3.7

New Jersey State and Local Government Revenues by Source, 1974 and 1978

(In $ thousand)

Source	1974						1978					
	State		Municipal and County[a]		Municipal		State		Municipal and County[a]		Municipal	
	($)	(%)	($)	(%)	($)	(%)	($)	(%)	($)	(%)	($)	(%)
Intergovernmental												
Federal	1,036,760	29.2	226,675	9.7	150,138	9.8	1,349,069	25.3	669,433	18.5	287,612	13.2
State	0	0	557,285	23.8	490,320	31.8	0	0	817,341	22.6	729,072	33.4
Local	0	0	0	0	0	0	0	0	0	0	0	0
Total intergovernmental	1,036,760	29.2	783,960	33.4	640,459	41.6	1,349,069	25.3	1,486,774	41.1	1,016,684	46.6
Own sources												
Property taxes	0	0	1,238,568	52.7	686,366	44.6	0	0	1,659,186	45.8	878,946	40.3
Sales taxes	735,065	20.7	0	0	0	0	1,003,034	18.8	0	0	0	0
Income tax	0	0	0	0	0	0	750,069	14.0	0	0	0	0
Motor fuels	274,088	7.7	0	0	0	0	300,260	5.6	0	0	0	0
Motor vehicle	160,195	4.5	0	0	0	0	236,180	4.4	0	0	0	0
All other taxes	872,790	24.6	7,234	0.3	7,234	0.5	1,130,698	21.2	11,767	0.3	11,767	0.5
Total taxes	2,042,138	57.6	1,245,803	53.1	693,601	45.0	3,420,242	64.0	1,670,953	46.1	890,713	40.9
Other revenues[b]	468,593	13.2	316,209	13.4	205,574	13.4	571,358	10.7	462,446	12.8	272,226	12.5
Total, own sources	2,510,731	70.8	1,562,012	66.6	899,355	58.4	3,991,600	74.7	2,133,399	58.9	1,162,939	53.4
Total general revenue	3,547,492	100.0	2,345,972	100.0	1,539,814	100.0	5,340,669	100.0	3,620,172	100.0	2,179,623	100.0

SOURCES: New Jersey Department of Community Affairs, *Annual Report of the Division of Local Government Services*, 1974, 1978. State of New Jersey, *Annual Budget*; actual revenues for prior years taken from 1976 and 1980 budgets.

NOTE: Local revenues are for indicated calendar year. The state revenues are for the fiscal year ending in that calendar year.

[a] Revenues for school and special districts are not included. Property tax revenues for schools were $1,589,947,100 in 1974 and $1,802,783,700 in 1978. Property tax revenues for special districts were $13,075,600 in 1974 and $19,242,000 in 1978.

[b] Includes charges, sales of acquired property, fees, fines, permits, and use of money. For the state it also includes state college tuition and revenue from the state lottery. State income taxes in 1978 include the income taxes dedicated to the Gubernatorial General Election Fund.

Table 3.8

General Revenues of New Jersey Study Sites by Source, 1974 and 1978

(In $ thousand)

Source	Camden				East Orange				Montclair				Newark			
	1974		1978		1974		1978		1974		1978		1974		1978	
	$	%	$	%	$	%	$	%	$	%	$	%	$	%	$	%
Intergovernmental	16,945	56.5	25,009	62.1	9,980	32.8	11,935	34.1	1,990	19.7	2,855	24.2	97,798	58.9	126,398	60.7
Own sources	13,064	43.5	15,291	37.9	20,432	67.2	23,038	65.9	8,094	80.3	8,937	75.8	68,315	41.1	81,895	39.3
Total general revenue	30,009		40,300		30,411		34,973		10,084		11,792		166,114		208,293	
Intergovernmental																
Federal	4,232	14.1	11,068	27.5	2,650	8.7	2,692	7.7	285	2.8	264	2.2	39,976	24.1	54,017	25.9
State	12,713	42.4	13,941	34.6	7,330	24.1	9,244	26.4	1,705	16.9	2,591	22.0	57,823	34.8	72,382	34.8
Total	16,945	56.5	25,009	62.1	9,980	32.8	11,935	34.1	1,990	19.7	2,855	24.2	97,798	58.9	126,398	60.7
Own sources																
Property tax	10,877	36.2	10,695	26.5	18,481	60.8	20,876	60.6	6,261	62.1	7,060	59.9	36,048	21.7	51,125	24.5
All other	50	0.2	0	0	0	0	319	0.9	0	0	0	0	5,169	3.1	0	0
Total taxes	10,927	36.4	10,695	26.5	18,481	60.8	21,195	60.6	6,261	62.1	7,060	59.9	41,217	24.8	51,125	24.5
Sale of property	56	0.2	0	0	2	0	0	0	0	0	16	0.1	14	0	2,132	1.0
Other revenues	2,080	6.9	4,595	11.4	1,949	6.4	1,843	5.3	1,833	18.2	1,861	15.8	27,085	16.3	28,638	13.7
Total	13,064	43.5	15,291	37.9	20,432	67.2	23,038	65.9	8,094	80.3	8,937	75.8	68,315	41.1	81,895	39.3
Prior years surplus appropriated[a]	147		397		0		0		1,147		1,776		7,500		12,000	

SOURCE: New Jersey Department of Community Affairs, *Annual Report of the Division of Local Government Services*, 1974, 1978.

[a]Not included in total.

Cap Law limit, the city passed emergency appropriations in 1980 and 1981 amounting to $2.8 million.[11]

Newark. Newark, the state's largest city and situated in the middle of the nation's most populous region, typifies in many ways the trauma experienced in recent years by our nation's urban centers. During the 1960s, it suffered from violent racial strife that came to a head in 1967, when the National Guard put down four days of interracial rioting and looting. In 1970, Kenneth Gibson became the city's first black mayor and inherited what many considered the most economically depressed city in America. In 1977, Newark's overall unemployment rate exceeded 12 percent, its youth unemployment rate ranged from 40 to 45 percent, and more than one-third of its residents were on its public welfare rolls. In this environment, total property tax revenues in the city increased only slightly, because of the widespread abandonment of residential property. As a consequence, the city has become increasingly dependent on external sources of revenue. As recently as 1978, the city relied on state and federal sources for 60 percent of its budget and on property taxes for 25 percent.

East Orange. East Orange, less than one-fourth the size of Newark, has experienced many of Newark's problems but has done so about ten years after Newark did. Once an upper-middle-class suburban community like Montclair, unemployment is now high, and its public welfare rolls have grown. But unlike Newark, its population has increased as it has drifted from white and middle-class toward black and poor. Many of its new citizens are refugees fleeing Newark, which lies on its southern and eastern boundaries. Primarily a residential community, with the highest effective property tax rate of our ten cities, the city is more dependent upon property tax revenues than is Newark. In recent years East Orange has achieved some success at increasing revenues by aggressively pursuing delinquent taxpayers. Nevertheless, it receives fully one-third of its revenues from state and federal sources.

Montclair. Montclair typifies many of the nation's upper-middle-class bedroom communities. Less than five miles from Newark, it splits into two sections: Upper Montclair is predominantly wealthy and white; although the rest of Montclair has pockets of wealth, it is largely middle-class and contains a higher proportion of blacks and other minorities. Because Montclair has very little industry, it relies heavily on residential property taxes for its revenue. In 1978 it was the opposite of Newark: It relied on state and federal sources for 25 percent of its budget and on property taxes for 60 percent. Montclair's actual *city* property tax rate is low compared with our other New Jersey sites, but the total rate remains high because of the public school tax levy.

CALIFORNIA

Over the past decade, California's mixed industrial and agricultural economy expanded, filling the state coffers with surplus sales tax revenues and (nonindexed) income tax revenues. In spite of this superfluity, the state's taxes remained among the highest in the country.

In this environment of large surpluses and high taxes, California's voters overwhelmingly approved Proposition 13 on June 6, 1978. When it went into effect three weeks later, the proposition reduced FY 1979 property tax revenues by approximately $5 billion from FY 1978 levels, and reduced from 38 percent to 18 percent the share of local government revenues that came from property taxes.

In providing property tax relief, Proposition 13:

[11]With approximately $675,000 earmarked for health self-insurance, $100,000 for trash removal, $100,000 for street lights, and $300,000 for police and fire salaries.

- Limits taxes on residential, commercial, and business property to one percent of the 1975-76 market value,
- Restricts increases in property tax assessments to no more than two percent per year,
- Permits property to be reappraised at market value only when it is sold, changes ownership, or is newly constructed,
- Prohibits state or local governments from passing new property taxes,
- Requires a two-thirds vote of the electorate for the imposition of any special taxes, and
- Demands a two-thirds vote of the legislature for any changes in state taxes.

Before the full effect of the law could be felt, the state passed a $4.4 billion "bailout" bill that gave cities, counties, and schools an amount anticipated to cut the losses caused by Proposition 13 to about 10 percent. This bill included two major mechanisms to relieve the fiscal plight of localities. First, it shifted to the state about $1 billion in state-mandated medical assistance and welfare costs that had previously been borne by the counties. In this regard, California followed the lead of Kansas, whose state budget assumed such costs in 1974, and New Jersey, which shifted some school costs from the property tax to the income tax. Second, it allotted "block" grants to cities, counties, schools, and special districts to help them adjust to the new tax limitations. Each city and county received a share of the block grant based on the ratio of its property tax loss to that of all cities and counties (see Lipson and Lavin, 1980). Schools received selective block grants to sustain certain programs or to reduce their loss of property tax revenues. Since community colleges were potentially able to raise revenue through charges to students, they received less aid under this measure than did kindergarten through twelfth grade schools.

Exempt from Proposition 13 were those jurisdictions that did not collect property taxes. The city of Cerritos is one of more than 30 such cities; it neither collects property taxes nor was it able to receive any bailout monies.[12] The county, the school districts, and some special assessment districts do levy property taxes in such cities, and to this extent their property owners did not escape the effects of Proposition 13 nor did they receive the assistance of the bailout.

In 1979, the legislature enacted several measures that eased the effects of Proposition 13:

- Flood control and lighting districts may impose benefit assessments with approval of a majority of the voters (AB 549).
- Local agencies providing police and fire services may impose a benefit assessment or special tax with approval of two-thirds of the voters (AB 618).
- Specified water agencies may impose charges, fees, and benefit assessments although they cannot receive property tax revenues (AB 447).
- County clerks may increase certain fees (AB 226).

The state legislature also passed a long-range plan in 1979 that, unlike the first bailout, attached few strings on the use of state funds. It provided for approximately $4.9 billion in state aid to local jurisdictions, distributed according to past reliance on property tax collections. Under this measure, however, the legislature increased its aid to schools by some 44 percent from $2.5 billion to $3.6 billion, and it proportionately decreased its aid to cities by some 17 percent from $250 million to $207 million.[13] To share in these funds, local jurisdictions are

[12]Some other cities not collecting property taxes in 1977-78 were Commerce, Bellflower, Lancaster, Palmdale, Pleasant Hill, Lafayette, Yorba Linda, Palm Desert, and Rancho Mirage.

[13]Funds to special districts increased from $190 million to $200 million; total state assistance for counties rose from $1.5 billion to $1.6 billion, including health and welfare programs, which increased from $1.07 billion to $1.299 billion.

simply prohibited from making "detrimental" health-care cuts and specific cuts in adult and summer school programs. If state revenues in any year after 1979-80 decline significantly below their expected level, then the state will decrease its bailout funds by a comparable amount, one half of the decrease to be felt by the schools and the other half by cities, counties, and special districts.

In November 1979, voters passed Proposition 4, which limits the annual growth rate of spending by state and local governments to rises in population and cost of living. In addition, it requires that surpluses be returned to taxpayers within two years, and it forces the state to pay for any services it mandates to local governments. The spending limits exclude federal government and court mandates, however, and emergency appropriations that exceed the limit are allowed. In addition, voters can change these limits through a majority vote. Since Proposition 4 did not become effective until the 1980-81 fiscal year, this study will not assess its impact.

Property Tax Administration

As in Kansas, counties in California assess, collect, and then return property taxes to local jurisdictions. Counties must reappraise property every three years; whereupon the state Board of Equalization conducts surveys to determine how counties compare in their assessment levels and how close their assessment levels come to the statutory 25 percent of real value. While Proposition 13 limited the amounts of property taxes, the legislature determined how these property taxes were to be collected: Reassessments must bring the 1975-76 assessment rolls up to full 1975 face value and also account for any resale and new construction, and the assessment rolls were to be increased after 1975-76 only by a 2 percent annual inflation rate. With rampant inflation and a slowdown in the building industry, property values had risen much more rapidly than this rate prior to the passage of Proposition 13: From 1973 to 1978, assessed values grew 70 percent, and property tax levies increased by one-half.

Pre- and Post-Limit Years

In California, we selected calendar year 1976, two years before the passage of Proposition 13, as the base year for our analysis, and calendar year 1979 as the post-fiscal-limit year. Table 3.9 summarizes the revenue structure of the state and local governments for the corresponding fiscal years.[14]

Study Sites: Cerritos, Compton, Los Angeles, and Oakland

Three of our study sites—Cerritos, Compton, and Los Angeles—are in Los Angeles County in the southern part of the state. The fourth, Oakland, is in Alameda County, a part of the San Francisco-Oakland metropolitan area. Table 3.10 lists the revenue sources of each city before and after Proposition 13.

Cerritos. Cerritos is a new, expanding, and wealthy city. Incorporated in 1956, it has grown faster than any other city in California. Between 1971 and 1973, its new homes accounted for 70 percent of all new homes constructed in the county. It is an open, racially mixed

[14]Tax incidence calculations in all three states are done on a calendar year basis (see Chap. 4), but statewide data on local governments are available in California only on a fiscal year basis. California cities, counties, special districts, and the state all observe a July 1 to June 30 fiscal year.

Table 3.9

California State and Local Government Revenues by Source, 1975-76 and 1978-79

(In $ thousand)

Source	1975-76						1978-79					
	State		All Local Governments[a]		Cities		State		All Local Governments[a]		Cities	
	$	%	$	%	$	%	$	%	$	%	$	
Intergovernmental	5,084,067	30.9	8,724,017	44.5	1,345,001	30.0	5,484,445	23.9	14,893,277	61.6	2,226,106	3
Own sources	11,361,872[b]	69.1	10,870,097	55.5	3,145,096	70.0	17,431,039[b]	76.1	9,282,108	38.4	3,813,083	6
Total general revenue	16,445,939	100.0	19,594,114	100.0	4,490,097	100.0	22,915,484	100.0	24,175,385	100.0	6,039,189	10
Intergovernmental												
Federal	4,702,733	28.6	2,842,221	14.5	660,972	14.7	5,399,578	23.6	4,367,686	18.1	1,163,893	1
State	0	0.0	5,543,116	28.3	640,459	14.3	0	0.0	10,107,739	41.8	1,012,093	1
Local and other	381,334	2.3	322,811	1.6	43,570	1.0	84,867	0.4	410,921	1.7	50,121	
Federal and state	0	0.0	15,869	0.1	0		0		6,931	0.0	0	
Total intergovernmental	5,084,067	30.9	8,724,017	44.5	1,345,001	30.0	5,484,445	23.9	14,893,277	61.6	2,226,106	3
Own sources												
Property tax	0	0.0	7,570,317	38.6	1,071,281	23.9	0	0.0	4,439,640	18.4	629,237	1
Sales and use	3,742,524	22.8	812,352	4.1	674,903	15.0	5,780,919	25.2	1,242,894	5.1	1,040,289	1
Income	4,373,125	26.6	0	0.0	0	0.0	7,142,794	31.2	0	0.0	0	
Motor fuel	1,486,959	9.0	0	0.0	0	0.0	1,876,576	8.2	0	0.0	0	
Other taxes	1,077,852	6.6	488,274	2.5	454,780	10.1	1,400,741	6.1	803,266	3.3	727,307	1
Total taxes	10,680,460	64.9	8,870,943	45.3	2,200,964	49.0	16,201,030	70.7	6,485,800	26.8	2,406,823	3
Charges, licenses, permits			1,154,638	5.9	459,176	10.2			1,488,664	6.2	679,642	1
Miscellaneous revenues	681,412	4.1	844,516	4.3	484,956	10.8	1,230,009	5.4	1,307,644	5.6	726,608	1
Fines, penalties			163,819	0.8	90,318	2.0			205,502	1.0	111,735	
Other misc. revenues			680,69	3.5	394,638	8.8			1,102,142	4.6	614,873	1
Total, own sources	11,361,872	69.1	10,870,097	55.5	3,145,096	70.0	17,431,039	76.1	9,282,108	38.4	3,813,083	6

SOURCES: All published by the State Controller: *State of California Annual Reports*, Fiscal Years 1975-76 and 1978-79; *Annual Report of Financial Transactions Concerning Counties*, Fiscal Years 1975-76 and 1978-79; *Annual Report of Transactions Concerning Cities*, Fiscal Years 1975-76 and 1978-79; *Annual Report of Financial Transactions Concerning Special Districts*, Fiscal Years 1975-76 and 1978-79; *Annual Report of Financial Transactions Concerning School Districts*, Fiscal Years 1975-76 and 1978-79.

[a] All local includes cities, counties, and special, school, and community college districts.

[b] Other additions to the state's balance statement that are not included here are: operating income, income from investments, transfers from other funds, advances and deposits, sales taxes collected for local governments, retirement system receipts, trust receipts, net increase in accountability of deposits, prior year surplus adjustments, and other additions. In 1978-79 these additions summed to over $24 billion. See Statement No. 2, p. 5, *State of California Annual Report*, Fiscal Year 1978-79.

Table 3.10

General Revenues of California Study Sites by Source, 1975-76 and 1978-79

(In $ thousand)

Source	Carrito 1975-76 $	Carrito 1975-76 %	Carrito 1978-79 $	Carrito 1978-79 %	Compton 1975-76 $	Compton 1975-76 %	Compton 1978-79 $	Compton 1978-79 %	Los Angeles 1975-76 $	Los Angeles 1975-76 %	Los Angeles 1978-79 $	Los Angeles 1978-79 %	Oakland 1975-76 $	Oakland 1975-76 %	Oakland 1978-79 $	Oakland 1978-79 %
Intergovernmental	1,878	27.7	3,620	30.6	7,000	49.3	16,346	67.6	229,347	26.9	342,848	33.7	44,991	37.9	76,129	50.3
Own sources	4,903	72.3	8,194	69.4	7,200	50.7	7,835	32.4	622,269	73.1	674,048	66.3	73,766	62.1	75,058	49.6
Total general revenue	6,781	100.0	11,814	100.0	14,200	100.0	24,180	100.0	851,615	100.0	1,016,896	100.0	118,757	100.0	151,187	100.0
Intergovernmental																
Federal	426	6.3	960	8.1	4,768	33.6	12,240	50.6	74,022	8.7	91,123	9.0	27,350	23.0	49,420	32.7
State	1,112	16.4	1,518	12.8	2,003	14.1	3,810	15.8	100,257	11.8	183,054	18.0	15,923	13.4	24,103	15.9
State and federal	0	0	0	0	0	0	0	0	10,543	1.2	15,247	1.5	0	0	0	0
Local[a]	340	5.0	1,143	9.7	228	1.6	295	1.2	44,525	5.2	53,424	5.3	1,718	1.4	2,606	1.7
Total	1,878	27.7	3,620	30.6	7,000	49.3	16,346	67.6	229,347	26.9	342,848	33.7	44,991	37.9	76,129	50.3
Own sources																
Property tax and special assessments	420	6.2	146	1.2	3,493	24.6	2,924	12.1	258,904	30.4	163,832	16.1	31,089	26.2	13,528	8.9
Sales and use	2,764	40.8	4,562	38.6	1,458	10.3	2,076	8.6	105,902	12.4	148,849	14.6	12,714	10.7	16,922	11.2
Business tax[b]	0	0	0	0	0	0	0	0	67,251	7.9	90,583	8.9	2,358	2.0	6,571	4.3
Utility tax	0	0	0	0	989	7.0	1,470	6.1	62,106	7.3	89,021	8.8	6,450	5.4	9,032	6.0
Real estate transfer	61	0.9	112	1.0	19	0.1	39	0.2	1,795	0.2	4,145	0.4	1,603	1.3	5,162	3.4
All other taxes[c]	4	0	7	0.1	19	0.1	40	0.2	6,385	0.7	12,042	1.2	678	0.6	1,394	0.9
Total taxes	3,250	49.5	4,826	42.4	5,981	42.1	6,549	27.1	502,343	59.0	508,472	50.0	54,892	46.2	52,629	49.6
Charges, licenses, permits, franchises, fines, and penalties	1,505	22.2	2,284	19.3	576	4.8	1,112	4.6	97,971	11.5	131,271	12.9	11,156	9.4	13,421	8.9
Use of money	142	2.1	1,000	8.5	68	0.5	90	0.4	21,935	2.6	34,306	3.4	3,389	2.9	4,593	3.0
Other miscellaneous	6	0	84	0.7	474	3.3	83	0.3	0	0	0	0	4,329	3.6	4,415	2.9
Surplus	0	0	0	0	0	0	0	0	52,442	0	79,021	0	0	0	0	0
Total own sources	4,903	72.3	8,194	69.4	7,200	50.7	7,835	32.4	622,269	73.1	674,048	66.3	73,766	62.1	75,058	49.6

SOURCES: City of Carrito Combined Financial Programs, FY 1977-78, FY 1980-81; City of Compton Annual Budget 1977-78, 1980-81, as updated by budget officer; Los Angeles City Controller Annual Report, FY 1975-76, 1978-79; Annual Financial Report of the City of Oakland, 1975-76, 1978-79.

NOTE: Revenues include all funds for a city except Community Redevelopment and any utility or enterprise funds.

[a] Intergovernmental from local includes county gas tax, Community Redevelopment payments to the city, and other locally shared taxes.

[b] Based on gross receipts.

[c] Primarily transient occupancy (and, in Oakland, bedroom) taxes.

community to which many upwardly mobile minority families have come. It is by no means a poor community: Its homes tend to range in value from $100,000 to $250,000.

Cerritos is atypical in its reliance on property taxes. Since the city did not assess property taxes before Proposition 13 passed, it can never do so unless the state passes a special law. Its major revenue is the sales tax, returned to the city by the state and based primarily on sales of the large Cerritos shopping mall. The county, school district, and special districts, however, do levy property taxes on city residents, and the city budget contains a number of agencies, including the Cerritos Redevelopment Agency, that receive property tax revenues. The high actual property tax rate of $1.21 per $100 of market value that the ABC (Artesia, Bellflower, Cerritos) school district levies on the city residents contributed to a 1975-76 composite rate that was almost as high as Compton's.

Compton. Incorporated in 1888, Compton is a typically old and contracting city. It is also one of the state's poorest cities, and has the highest crime rate among California cities with populations over 50,000. It began to rely more heavily on federal and state aid after the Watts riots in the late 1960s, when white residents began to leave the city, and this reliance has increased thoughout the 1970s so that it now accounts for almost 70 percent of city revenues. Federal and state community development monies have been used extensively to build the City Hall and the adjacent branch of the Los Angeles County Library system.

Proposition 13, however, did not strongly affect Compton's general fund property taxes, since Sec. 1402 of its city charter already contained a similar limit: "Exclusive of special levies permitted by this charter, the city council shall not levy a property tax in excess of One ($1.00) dollar on each $100 of assessed value of taxable property in the city for municipal purposes, unless authorized by the affirmative votes of two-thirds of the electors voting on such proposition at any election." The city authorized additional levies necessary for the Public Employee Retirement System, on the grounds that obligations to the system are a form of indebtedness for which Proposition 13 permits a separate levy. Other additional property tax levies for recreation and parks and advertising were absorbed by the $1.00 nominal property tax rate.

Los Angeles. A sprawling, decentralized city, second largest in the nation, Los Angeles's population and percentage of minority residents have grown over the past decade and the city budget has grown accordingly. The city's current operating expenses exceed $1 billion,[15] but its functions are somewhat more limited than those performed by large cities in some other states. Most notably absent from the Los Angeles budget are any significant expenditures for health and welfare services (handled by Los Angeles County and the state) and education (handled by the school district).

In 1975-76, the city drew 30 percent of its revenues from the property tax, a heavier dependence than that of any of our other three California cities. To make up for the large cuts in property tax revenues due to Proposition 13, the Los Angeles City Council recommended in 1981 a "fee" per household whose funds would be earmarked for police services. City voters rejected this fee in the June 2, 1981, primary election.

Oakland. Though in the hub of the growing San Francisco Bay Area, Oakland has a declining population with an increasing minority population and a fiscally troubled local government.

The passage of a 1973 referendum that put limits on city property tax rates created a

[15]Excluded from this figure and all similar ones in this report are the expenditures of independent city enterprise departments required to generate their own revenues, such as the Department of Water and Power, the Department of Airports, and the Harbor Department. Also excluded are independent agencies such as the Community Redevelopment Agency, that generate revenue outside the city general fund.

revenue strain for the city long before the passage of Proposition 13. By 1975-76, city services became heavily dependent on steadily increasing federal funds even though actual property tax rates remained high. The city authorized a new payroll tax immediately following the passage of Proposition 13. This tax was never levied and the authorization was later rescinded.

Chapter 4

METHODOLOGY AND DATA

GENERAL PRECEPTS

The objective of our tax incidence calculations is to compare the burden of local and state taxes on residents of our ten case-study cities before and after the passage of fiscal limits laws. Specifically, we are concerned with the sum total of tax burdens from (1) all state taxes, fees, and charges, (2) all property taxes, and (3) all city taxes, fees, and charges. We compute the total burden as it falls on people in each of five income categories in each city.[1] Chapter 2 discussed the theory underlying the calculation of this burden; this chapter presents the computational methodology of our study, and the data sources on which the computations are based. The data sources and allocation procedures we used are summarized in Table 4.1, and are discussed below for each major tax.[2]

Each of the specific methodologies described below involves a number of explicit or implicit assumptions. Given the lack of city-level data concerning many of the items we need—dividend income by income group, sales taxes paid, etc.—such assumptions are unavoidable. To the extent possible, we minimized their number, and based them on empirical evidence, if any exists, and in light of the general tenets of economic theory. Nonetheless, these assumptions may introduce biases into our estimates of the burden of local and state taxes. Because the possible biases are conflicting, in that some would lead to overestimation of the burden and some to underestimation, no conclusion as to the direction of overall bias is possible. The assumptions being numerous and the biases conflicting, then, this report includes little discussion of the likely bias introduced by individual assumptions.

Throughout the study, several general principles molded our approach. First, as in the treatment of the *theory* of tax incidence, the amount of effort expended on refining the *calculations* of the burden for individual taxes was in rough proportion to the share of the tax in the total burden of local and state taxes. Thus the allocation of property taxes absorbed a great deal of time and attention, while little of either went toward the allocation of the Grain Tax (Kansas) or the Boxing, Wrestling, and Pari-Mutuel Tax (New Jersey).

Second, whenever possible, we use information and data specific to our case-study cities, rather than state or national averages. When city-specific data are unavailable (as they frequently are), we use data reflecting the aggregate statewide burden of a tax by income group, and then work downward to the city level. For example, in allocating the burden of the income tax, we use data provided by the New Jersey Division of Taxation concerning the amount of state income tax paid by residents of Camden, East Orange, Newark, and Montclair. In Kansas, where no such city-level data exist, we first determine the total amount of income tax paid statewide by households in each income group. We then estimate Kansas City residents' share in this state burden based on the number of Kansas City households in the income group, as compared with the total (statewide) number of households in the income group.

The third general precept that guided our work concerns the allocation of various sales

[1] The number and size of the income groups were dictated by data availability.
[2] Further details concerning methodology and data sources are available from the authors upon request.

Table 4.1

ALLOCATION OF TAX BURDENS

Tax	Burden Borne By
Local taxes and charges	
Property tax	
National component	All owners of land and capital
Local component	Owners of local land
Minor taxes and charges	Varies
State taxes and charges	
Personal income tax	Income earners
Corporate income tax	Stockholders
General sales tax	Consumers of taxed items
Tobacco and alcohol taxes	Consumers of tobacco and alcohol
Auto registration fees	
Business	Consumers in general
Personal	Auto owners
Motor fuels taxes	
Business	Consumers in general
Personal	Consumers of motor fuels
Inheritance taxes	Heirs
Minor taxes and charges	Varies

taxes. We assume that the burdens of all sales and excise taxes fall on the consumers of the particular products which are taxed. Estimates of the share of each income group in total state consumption for each type of taxed product are taken from the work of Donald Phares.[3] Phares derives his estimates for each state from data from the Bureau of Labor Statistics' Consumer Expenditure Surveys.

Fourth, we calculate tax burdens in terms of calendar years and constant 1976 dollars. Thus the estimate of the post-Proposition 13 (1979) level of California state taxes is based in some cases on data for fiscal years 1979 and 1980, which are converted to an estimate of taxes collected in calendar year 1979, and then expressed in constant 1976 dollars.

Finally, we focus throughout on providing consistent measures of the burdens of local and state taxes in each state for the pre- and post-fiscal-limit year. The emphasis is on accurate measurement of the *change* in tax burden between the two years, rather than on the precise level of the burden in either year. This focus, for example, means that we are willing to use a less good data source that is available for both pre- and post-fiscal limit years in preference to a better source that is available only for one year.

PROPERTY TAXES

The calculation of the burden of property taxes in the ten case-study cities directly follows from the earlier discussion of the theory of property tax incidence. Recall that the burden of the property tax can be thought of as having two components, a national component and a local one. The national component consists of the burden of *nationwide* property taxes, which we

[3]The unpublished series were provided by Phares, who uses them in his own tax incidence study (Phares, 1980).

assume falls on owners of capital nationwide. The burden of the local component, whose size depends on the amount by which the actual local property tax rate exceeds or falls short of the U.S. average, is assumed to fall on the owners of local land. When a change in local property taxes occurs, the primary result is a change in the local component of the property tax burden. Even when property taxes change over as wide an area as the state of California, the national average property tax rate, and therefore the national component of the property tax burden, changes only slightly. We nonetheless include the national component in our calculations so that our determination of the total burden of local and state taxes will be more nearly comparable to other studies on the same topic; other studies generally include all property taxes, not merely a fraction of them, in the definition of local taxes. In later discussions (Chap. 5) we comment on how excluding the national component of the property tax burden affects our findings.

When we allocate the national and local components of the property tax, we are faced with three conceptually and computationally different tasks: (1) computing the proportion of the nationwide burden of property taxes accruing to residents of each income group in each case-study city in each year, (2) calculating the actual national and local property tax rates for each relevant year, and (3) estimating the distribution of local land ownership by income groups. Once these three pieces have been put in place, assembling an estimate of the total burden of the property tax is straightforward.

The National Component of the Property Tax Burden

Our view is that the average of all property taxes imposed by localities is borne by the owners of capital in general; thus the fraction of the burden of total property taxes collected nationally which falls on residents of the case study cities depends on their share in the ownership of the national stock of capital. Computationally, the national component of the property tax borne by the lowest income group in, say, Camden in 1974, is equal to the national total of property taxes paid in 1974[4] multiplied by the fraction representing that group's ownership of capital in 1974 as a proportion of the nation's capital stock in 1974.

Because it is difficult to obtain information on capital stock ownership, however, we choose instead to look at the income flows generated by capital ownership. As long as the rates of return to investment in different forms of capital are, at the margin, roughly equal, then examining the proportion of national income flows accruing to each income group in each city will yield the same results as examining capital stock ownership.

In our definition of income generated by capital, we include the following monetary flows: dividends, interest payments, rents and royalties, undistributed corporate profits, and returns to capital earned by the owners of unincorporated businesses. We also include one nonmonetary flow: the gross imputed rent from owner-occupied residences. This last item is included so as not to overlook that portion of the nation's capital stock which takes the form of owner-occupied housing, which generates no money-income flows.[5]

In computing, for each income group in each city, that group's share in total national income from capital, we rely heavily on statistics of income reported by state income tax collection bureaus in each of our three states, and on statistics reported by the Internal Revenue

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[4]Total property taxes paid by state and the total for the United States are reported annually by the U.S. Bureau of the Census, Governments Division.

[5]The term "gross imputed rent" is used to refer to the hypothetical amount of rent which would accrue to the owner of a house if he rented it to someone else, rather than living in it.

Service (IRS). All income flows from capital except imputed rent derive from some combination of these sources.

We begin by using these sources to estimate dividend and interest income received (for each relevant year) by each income group in each city. We then estimate rents and royalties received (by each income group in each city). The national total of rents and royalties is determined from national income statistics published by the U.S. Department of Commerce; we assume that this total is distributed across income groups and geographic areas in the same way each year as are dividend and interest income in that year, as previously calculated. Next, we allocate retained corporate profits on the assumption that they are distributed in the same pattern as dividend income. (The national total for this income category is provided by national income statistics.) Finally, we estimate returns to capital earned by owners of unincorporated businesses based on total national partnership and proprietorship income as reported in national income statistics published by the U.S. Department of Commerce.[6] Returns to capital are then distributed to income groups and cities based on data on income from partnerships and proprietorships as reported by state and federal income tax collection bureaus.

Finally, we turn to the calculation of gross imputed rent for each income group in each city. Using data from the Annual Housing Survey of the U.S. Bureau of the Census, we estimate the average value of a house owned by a household in each of the five income groups in each city in 1974 or 1975.[7] We then employ ratios of imputed rent to house value provided by the Bureau of Economic Analysis of the Department of Commerce to calculate an average amount of gross imputed rent for an owner-occupied house in each income group.[8] Because this ratio varies depending on the value of the house, different ratios are used for different income groups. Using Annual Housing Survey data on the fraction of households that own homes in each income group in each city, and National Technical Information Service (NTIS) data on the number of households in each income group, we then derive an estimate of the total imputed rent received by households in each income group.[9]

The above-described calculations provide estimates of the aggregate value of each income flow of concern, for each income group in each city in each relevant year. These flows then must be compared with total national flows from capital to determine the share of each group in the total national burden from property taxes. Dividend interest income at the national level for each year is taken from the data of the IRS.[10] Total national flows for undistributed corporate profits, rents and royalties, returns to capital in unincorporated businesses, and gross imputed rent for owner-occupied houses are derived from published and unpublished estimates used by the Bureau of Economic Analysis in producing the national income accounts.

The above-described methodology aims at assigning to each income group in each city the appropriate share in national property taxes paid. By this approach, we include in our national

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[6]Of the total reported income of partnerships and proprietorships, we assume 16 percent is return on capital; we assume that the other 84 percent is the implicit wage received by the owner or partner for the labor he or she provides. These percentages are chosen because they approximate the returns-to-labor versus returns-to-capital split in corporations.

[7]The year depends on the year in which the Annual Housing Survey was conducted for the SMSA in which the city is located. Strictly speaking, what is estimated from the Survey data is an SMSA-wide value of house value by income group. We assume that this value applies, on average, to each city within the SMSA.

[8]The ratios used are the same as those used by the Department of Commerce in estimates of imputed rent which become part of the national income accounts.

[9]Actually, this number is aggregate imputed rent in 1974 or 1975. It is inflated (or deflated) to its value in the year under study, based on the SMSA-specific value of the Homeownership component of the Consumer Price Index.

[10]IRS data will understate the true national value of dividend and interest income, but has the advantage of providing a national figure more consistent with the city-level figures, which can be determined only from data derived from income tax returns.

component of property taxes the burden of property taxes due to ownership of capital regardless of location or type of capital.

Thus the total amount of the national component of property tax burden falling on each income group in each city directly depends on the total property taxes paid in the United States and the ratio of the income from capital received by the group to nationwide total income from capital. In contrast, the local component of the property tax burden that falls on the group depends on circumstances in the city. Specifically, it will depend on the effective property tax rate in the city compared with the rest of the nation, and the ownership of land (*not* ownership of capital as a whole)[11] in the city. We will now turn to these issues.

Actual National and Local Tax Rates

We define an actual property tax rate as the ratio of property taxes to the market value of the property being taxed.[12] To calculate an actual average national tax rate requires information on property taxes and market value of property in all states. Information on the market value of property in all states, however, does not exist. We construct our own estimates of the total market value of property subject to property tax in the United States, based on data published by the Bureau of the Census, Governments Division.

Specifically, we use estimates—for the nation and for the three study states—on the assessed value of property by type of property, and on assessed-value to market-value ratios by type of property. These estimates are published by the Census for the years 1966, 1971, and 1976. We combine these data for each year to give an estimate of the market value of each type of property nationwide and in the three states. Values for different types of property are added together to get the total value of all taxable property (real and personal). We then interpolate to estimate total market value of property in years other than 1966, 1971, and 1976. These market value figures, combined with data on property taxes paid nationwide and in the three states, give estimates of actual property tax rates nationwide and by state.

Using a parallel method and data from state agencies in the three states, we then derive estimates of state and local actual property tax rates in each relevant year. Included in the calculations of local rates are all property taxes paid by residents of the ten case-study cities, regardless of whether the taxes are paid to city, county, school district, or special district.

Next, we combine the ratio of national to state actual property tax rate derived from Census data with the ratio of state to local tax rate derived from state data to estimate a ratio of national to local rates. This ratio is used directly in the calculations of the local component of the property tax burden. A ratio greater than one means the local tax rate is below the national average, and the local component is negative—i.e., the local component of the property tax is a benefit, not a burden, to the city landowners. If the ratio is less than one, the local component is positive—i.e., city landowners bear a burden from property taxes that is above the national average. If the local rate is, for example, 20 percent above the national average, then owners of local land, in the aggregate, bear an extra burden equal to 20 percent of the local taxes collected. Our case-study cities in Kansas and New Jersey had actual property tax rates above the national average in both pre- and post-fiscal-limit years. In the pre-Proposition 13 year of 1976, the California cities all had rates well in excess of the national average. In the post-13 year of 1979, all were below the national average.

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[11] In this context, "capital as a whole" refers to land plus buildings, equipment, etc.

[12] This can be contrasted with the nominal tax rate, which is the ratio of property taxes to the assessed value of the property.

Once we have determined the aggregate burden of the local component of the property tax, it remains to allocate it among income groups in each city on the basis of ownership of city land.

Because the allocation of the property tax is crucial to any analysis of local and state taxes, we estimate the ratio of national to local rates in an alternative procedure as well, in order to test our overall results for sensitivity to the possible errors in ratio introduced by the above methodology. In our alternative procedure, we use data published (for selected years) by the Advisory Commission on Intergovernmental Relations (ACIR), on the actual property tax rates on existing single-family homes with FHA-insured mortgages. These rates are calculated by state and for the nation as a whole. The rates apply only to a narrow segment of property subject to tax, but for that segment they are probably quite accurate. The ratio of each state tax rate to the national average, using these ACIR data, is combined with state-to-city ratios for each city[13] to yield a national/local ratio.

We consider the ratios of national-to-local tax rates based on Census data to be more reliable than the ratios based on ACIR data because the former cover all property types (residential, commercial and industrial, and personal). Nonetheless, we do calculations of the local component of the property tax burden using both ratios in order to judge the robustness of our results. Our results regarding the total burden of local and state taxes proved to be virtually the same for both ratios.

Local Land Ownership by Income Group

The local component of property taxes falls on owners of land, but not all land in a city is owned by city residents. Our task is thus to determine both how much land is owned by residents and how this ownership is distributed across income groups. We undertake this determination separately for single-family residences, multifamily residences, commercial property, industrial property, and vacant lots. In all cases, we use data from local tax assessment rolls; specifically, we begin with the assessed value of land (exclusive of improvements), in each property category and the total for the city.[14]

For single-family homes, and for multifamily buildings in each of three size categories (based on number of units), we base our estimate of the proportion of property (both land and the improvements on it) owned by city residents on data from the Housing Assistance Supply Experiment.[15] Assuming that the proportion of land in this category which is owned by residents is the same as the proportion of property, we calculate the value of land (citywide) owned by city residents. That part of total land value owned by residents which was associated with single-family homes, we divide among income classes in proportion to the share of each class in the total value of gross imputed rent, as previously calculated (see above). Land owned by city residents in the form of multifamily homes is divided in proportion to the flow of income from dividends, interest, and returns to capital in unincorporated business, received by each income group.

For commercial property, we estimate the percent of locally owned land based on city-level

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[13]The state-to-city ratios are derived from state agency data as described above.

[14]All calculations of local land ownership are based on the percent of the *assessed* value of land which is locally owned; there are no data on market value of land (exclusive of improvements) for any type of property except vacant lots. We implicitly assume, therefore, that the percent of the market value of land which is locally owned is the same as the percent of the assessed value which is locally owned.

[15]Conducted by The Rand Corporation under funding from the U.S. Department of Housing and Urban Development. The particular data used are from surveys in South Bend, Indiana.

data in the Census of Retail Trade and the Census of Wholesale Trade in various years.[16] We distribute ownership across income groups based on the amount of returns to capital from unincorporated businesses in each group.

We assume that no industrial land is owned by local residents, and that vacant lots are distributed between residents and nonresidents, and across income groups, in the same way as is the total of land in all other property classes combined.

When all these calculations are completed, we have estimates of the percentage of the total land value located within the city which is owned by residents in each income group. This percentage is used to allocate the burden of the local component of the property tax burden.

Once the local component of the burden is computed, it is added, for each income group in each city, to the national component. We then net out from this total burden the property tax rebates received by property owners—in each of the five income groups—in the states where rebates are given. The final result is our estimate of the total burden of the property tax.

OTHER LOCAL TAXES

City residents, in addition to bearing the burden of property taxes, are subject to other local fees, charges, and miscellaneous taxes. We assume that the entire burden of all city-imposed fees, charges, and miscellaneous taxes is borne by city residents. We do not allocate to city residents any burden from county-imposed charges, or charges from any other jurisdictions.

We do not include in our calculations any fees or charges levied by nongovernmental entities. If the local government imposes a fee for swimming lessons, for example, those fees are included in our calculations of total tax burden. If the government stops offering swimming lessons and residents pay private instructors instead, the fees of those instructors are not included in our calculations.

Within each city, local sales taxes, other taxes, other revenues, and fees and charges are allocated to income groups in proportion to each group's total expenditures on consumption. We distribute utility taxes to income groups in proportion to their expenditures on gas, electricity, and telephone service.[17]

STATE TAXES

Among the wide array of state taxes and charges, eight types bulk large in Kansas, California, and New Jersey (and most other states): the personal income tax, the general sales tax, the corporate income tax, motor fuels taxes, motor vehicle registration and license fees, inheritance taxes, and excise taxes[18] on tobacco products and alcoholic beverages.

In the four California cities in 1976, the two Kansas cities in both 1969 and 1978, and the four New Jersey cities in both 1974 and 1978, the total burden on city residents from all of these state taxes was roughly equal to the burden from property taxes (national and local components combined). In the California cities in 1979—after the passage of Proposition 13—the burden of all state taxes combined was 40 to 50 percent greater than the burden from property taxes.[19]

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[16]Briefly, we assume that unincorporated businesses are locally owned, while incorporated businesses are not. We further assume that property owned by each type of business is in rough proportion to the sales accounted for by each.

[17]The distribution of both total consumption and utility expenditures is derived from unpublished data provided by Donald Phares, as discussed earlier in this chapter.

[18]An excise tax is a sales tax on a specific commodity.

Details for each city concerning the burdens from property taxes versus all state taxes can be found in Appendix Table A.1.

Personal Income Taxes

Kansas and California instituted state income taxes long before the advent of the Property Tax Lid Law or Proposition 13. New Jersey initiated an income tax as part of the reform program of 1976, which also included the Cap Law. In all three states, we allocate the burden of the income tax to the person who pays it. That is, we allocate the burden in proportion to the total income tax paid by each income group, as shown by statistics available from each state's tax collection bureau.

The available statistics from Kansas and California refer only to taxes paid statewide by each income group. The proportion of this statewide burden, in each group, which falls on residents of our study cities is estimated from the proportion of households in that income group that reside in our cities as compared with the state as a whole.[30] This procedure assumes that an Oakland household with an income of $15,000 pays the same tax as the average California household with the same income, but corrects for the fact that we know that the income distribution of Oakland households is not the same as in California as a whole.

We use the same procedure described above for New Jersey, but only to judge the fraction of the total burden borne by all city residents that falls on each of the five income groups. These numbers are then used to distribute the burden of *actual* total income tax paid by city residents. The actual total can be determined for New Jersey cities because the New Jersey Division of Taxation collects (unpublished) data based on the zip code of the taxpayer and his or her income and tax liability, as reported on state tax returns.

General Sales Taxes

Kansas, California, and New Jersey all have a general sales tax. We allocate the burden of these sales taxes to the consumers of taxed products.

For each state, Phares has compiled detailed information on: (a) which products are exempt from the general sales tax, and (b) the proportion of total consumption of taxed products which, in the aggregate, falls on each income group in each state.[31] We combine these data with information concerning the fraction of state households in each income group that reside in each of the study cities. The result is an estimate of the aggregate dollar value of the burden of sales taxes that falls on city residents in each income group.

Corporate Income Taxes

Each of the three states levies various taxes on the income of corporations headquartered or doing business in the state. As we stated in Chap. 2, we adopt the view that, in a competitive economy, owners of capital bear the burden of corporate income taxes. We allocate the burden

[30]The relative burdens of the two vary within each city depending on the income category.

[31]This information is taken from the same source as our income-distribution data for each city—namely, from the NTIS (see below).

[31]Series for the total consumption of taxed items are ultimately based on detailed statistics of consumption of individual products collected by the Bureau of Labor Statistics in its Consumer Expenditure Survey.

of these taxes to corporate stockholders, and city residents bear this burden in proportion to the percent of total U.S. dividend interest received by each income group in each city.[32] In practice, this procedure means that very little of the burden of state corporate income taxes falls on city residents; most of the burden is "exported" to residents of other states.

Motor Fuels Taxes

All three states levy taxes on gasoline and other motor vehicle fuels sold within the state. We allocate to consumers in general the burden of state taxes on gasoline sold to businesses, and to consumers of gasoline the burden of taxes on gasoline sold to individuals.[33] We assume that all diesel fuel, liquified petroleum gas, etc., is sold to business, and the burden of taxes on these products also is allocated to consumers in general.

The burdens falling on residents in each income group in each city through their role as consumers in general and as consumers of gasoline are calculated separately and then added together. The procedure, which is parallel with that described above for general sales taxes, uses estimates (from Phares) of total consumption expenditures and of expenditures on gasoline.

Motor Vehicle Registration and License Fees[34]

As with gasoline taxes, both businesses and individuals pay vehicle registration and vehicle operator license fees. We allocate the burden of fees paid by business to consumers in general, and those paid by individuals to households who drive.[35] We use Phares's series on total consumption expenditures and on expenditures on vehicle operation to distribute these tax burdens across income groups at the state level, then estimate the burden on city residents in each group.

Inheritance Taxes

The burden of inheritance taxes falls on the heirs. In the absence of data on the distribution of heirs by income level, we assume that all heirs fall in the highest of the five income classes for which we calculate burdens. The lower bound of this class is defined by a household income of $25,000 in 1976 dollars; it seems reasonable to assume that the inheritance of an estate of a size to be subject to tax would propel the heir into this category if he or she were not there

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[32]To be consistent, these taxes should be allocated on the basis of the percent of all income flows from capital (dividends, interest, royalties, etc.) received by each income class in each city. The inaccuracy introduced by using only dividend income, however, is small; less than 3 percent of the burden imposed on city residents by all state taxes is due to corporate income taxes, using our methodology. It is unlikely that this percentage would change significantly if all capital flows were used in the methodology.

[33]We assume all automobile use and 40 percent of truck use is accounted for by households, leading to an estimate of overall gasoline use of 40 percent by firms and 60 percent by households. Data and procedures are adapted from Schurr et al. (1979).

[34]For all other state taxes and fees, the data source for total tax collections is the state controller's office or the state governor's office. For motor vehicle registration and license fees, however, we use state data reported in a federal publication: *Highway Statistics*, published by the Federal Highway Administration. The federal source is used because it gives the consistent level of detail across states needed for the allocation procedure.

[35]We assume that households pay all automobile and motorcycle registration fees, 40 percent of truck and trailer registration fees, and all driver's license fees; the remainder of state-imposed fees we assume are paid by businesses.

before.[26] The proportion of this burden borne by residents of each city is then calculated using the percentage of the state total of households in this highest category which reside in a particular city. To the extent that the heirs to the estate live outside state boundaries, this procedure will overestimate the burden of inheritance taxes on the highest income group in each city.

Excise Taxes on Tobacco Products and Alcoholic Beverages

In general, our approach allocates the burden of all sales taxes to consumers of the taxed product(s). Because sales taxes levied on cigarettes and other tobacco products, and on alcoholic beverages, are the most important of excise taxes, we allocate them separately from all more minor excise taxes.[27] We use data on expenditures on tobacco products, and on alcohol, as the basis for distributing the burden of these taxes among income groups at the state level. We then work down to the city level in each income group, again based on the proportion of state households residing in each city. Note that this is the same procedure that we apply to general sales taxes and motor fuels taxes.

Miscellaneous State Taxes

Minor state taxes, charges, and fees are allocated to income groups within each city following the same general principles embodied in the above discussions of the major taxes. The burden of taxes on specific activities or types of businesses (e.g., a tax on all insurance companies in the state) falls on the consumers of those activities or business products (e.g., purchasers of insurance). The burden of nonspecific taxes (e.g., business license fees) falls on state consumers in general. For each tax, we distribute the burden across income groups statewide in accordance with expenditures by each income class on insurance, or on total consumption, etc. The share of residents in each city is then determined by reference to the city's representation, in each income group, in the state's total number of households.

When all state taxes have been allocated individually, the total burden of state and local taxes is computed by adding together the individual burdens. The final step in our calculation of tax burdens is then to divide the aggregate tax burden by aggregate income in each income category (in each city) to calculate the effective tax rate of all local and state taxes. For this calculation we need, of course, an estimate of aggregate income in each income class.

INCOME

Income by our definition includes both money income in the group, as estimated from NTIS data, and net imputed rent, as estimated from data of the Annual Housing Survey of the Bureau of the Census.

The NTIS data we use concern the number of households in each of five income groups, by zip code area. The income measure used is household money income from all sources in 1976.[28]

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[26]Of course if an estate is divided among a large number of heirs, our assumption would not be valid. But for lack of an alternative, we use the assumption anyway.

[27]The minor excise taxes in each state are allocated along with all other miscellaneous state taxes; see below.

Because the income groups reported in the NTIS data are $0-$7,000, $7,000-$10,000, $10,000-$15,000, $15,000-$25,000, and over $25,000, we accordingly use these (money) income classes in our analysis.

For each income group, we add together the number of households for each zip code of our study cities,[29] as estimated by the NTIS. From this information on the total number of households in each of the five income groups, we estimate the continuous distribution of money income in each city. Using the parameters of this distribution, we calculate aggregate money income of all households in each income group.

To this aggregate money income we add the aggregate value of net imputed rent accruing to homeowners in each income group. Net imputed rent reflects the value of the net benefits accruing, in the form of housing services, to the owner who lives in his own house.[30] Quantitatively, for each household, it is the difference between the total value of housing services received and the total costs of owning the house. We calculate this difference by starting with gross imputed rent (computed as described above), and subtracting mortgage payments, insurance costs, and property taxes. Data on all of these aspects of homeownership costs are derived for each income group from the Annual Housing Survey (AHS) of 1974 or 1975 for the city of interest.[31] Once net imputed rent is calculated for an average household in each income group, it is combined with the total number of households in the group (from NTIS data), and with data on the proportion of owners in the group (from AHS data), to estimate aggregate rent for the group. This aggregate rent is then added to aggregate money income to compute aggregate total income for each group.[32]

Once aggregate total income has been calculated, it is used in the denominator of the term (total taxes ÷ total income) to determine effective tax rates of total local and state taxes, by income class, by city, by year. These rates are a chief subject of the remainder of this report.

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[29]NTIS bases its estimates of total money income on a variety of sources: 1970 Census data, 1976 Bureau of Economic Analysis data, and various survey data.

[29]Zip code boundaries seldom correspond precisely to city boundaries. If most of the area of a zip code area falls within city limits, we count all households in that zip code as part of the city.

[30]For the rationale for including imputed rent, see Chap. 2.

[31]As with gross imputed rent, all components of net imputed rent are reported in the AHS for the SMSAs in which the case study cities are located. We assume that both housing values and housing costs are the same, within each income group, regardless of where in the SMSA the household lives.

[32]Because of data constraints, we were unable to include unrealized capital gains in the aggregate total income estimate for each income group. If this component were added to the income base, the resultant increase would probably be greater for the higher-income groups and the results discussed in the following chapters would then shift in the direction of greater progressivity in both the period before and the period after the institution of fiscal limits.

Chapter 5

EMPIRICAL FINDINGS: DO FISCAL RESTRAINTS SHIFT THE BURDEN OF TAXATION?

This chapter discusses the results of our analysis of state and local tax burdens. The findings for each site are presented and comparisons are drawn by type of fiscal restraint and size and nature of city. Differential effects on owner-occupiers are also treated. The chapter concludes with a brief analysis of the effects of property tax reductions on federal income tax obligations.

FISCAL RESTRAINTS AND THE PROMINENCE OF THE PROPERTY TAX

All of the restraints we have examined are expected to lead to a reduction in the importance of the property tax in local government revenues and in the obligations of local taxpayers. Eroding municipal tax bases (e.g., from declining assessments or diminishing population) as in New Jersey, caps on local fiscal activity as in Kansas and New Jersey, increased relief for property taxpayers through rebates as in New Jersey, and, of course, cutbacks in property tax levies as under California's Proposition 13, will all have this effect. As we argued in Chap. 2, because we believe property taxes ultimately fall on owners of land and capital, reductions in the property tax should, in the absence of substitute taxes, render the entire tax package more regressive.

There are some qualifications, however. First, property taxes, although roughly proportional to wealth in the form of real estate,[1] have no explicit relation to income. In general, as one moves up the income scale, wealth increases disproportionately and so then should the property tax bite. But note that the very lowest income group in our calculations (below $7000 in 1976) contains many households with relatively high wealth levels. These tend to be older people with assets, including houses, but with low current incomes. In addition, the lowest group tends to include many people with temporarily low incomes due to unemployment, business reverses, and other causes but with assets equivalent to those of households higher on the income scale. The result is that the lowest income group may well be burdened by property taxes—and by corporate income and other business taxes—that are out of kilter with their income levels. In addition, if the concentration of wealth in a particular income group increases over the period of observation, its tax burden will rise even with no changes in the tax system.

Second, in many places, other forms of taxation have compensated for the fiscal losses that declines in the prominence of the property tax would have brought about. In all of our states, for example, the importance of the state income tax has increased over the period of the analysis. In New Jersey, an income tax was first initiated as part of the package that contained the cap law. In Kansas, state income taxes (personal and corporate) accounted for 6.5 percent of state and local revenues in 1969 but over 10.5 percent by 1977-78 (calculated from Table 3.5). Income taxes in all three states are progressive (least so in New Jersey), and in California and

[1]However, as total wealth rises, the fraction held in the form of land and buildings tends to decline.

Kansas they became more progressive over the period of our study. When a progressive income tax substitutes for a declining property tax, the system may not become more regressive. In fact, our calculations show that, in nine of the ten cities, state income tax payments were more progressive in their incidence than was the property tax.[2]

The burden of federal taxes did not constitute part of our study (although we do attempt, below, to estimate the effects of the loss of property tax deductions on payers of state and federal income taxes in California). But federal grants to state and local governments have increased substantially during the period, which means relatively less reliance on sources of revenue within any given state. A full-scale analysis would take into account the net effect of federal taxes (of which the personal income tax constituted 52 percent and the corporate income tax 17 percent)[3] along with lower property taxes.

THE LOCAL VS. THE NATIONAL COMPONENT OF THE PROPERTY TAX

As mentioned in Chap. 2, the "new view" of the property tax distinguishes between the national and local components. The average level of the property tax for the entire United States constitutes the national component, while deviations in particular taxing jurisdictions—positive or negative—constitute the local component. We have organized our analysis to show the burdens that result when the total of both components of the property tax is considered.[4]

THE EFFECTS OF FISCAL RESTRAINTS ON EFFECTIVE TAX RATES

How does the onset of fiscal restraints affect the burdens of various local and state taxes? Below, we divide the various taxes allocated to residents in all income groups combined in a particular site, by the sum of all income accruing to those residents[5] as a measure of effective tax rates in each city. Appendix Table A.1 presents effective tax rates for each income group separately for each site in a year preceding and one following the adoption of the fiscal limitation for all households combined and for five income groups:[6]

$ 0 - 6,999
$ 7,000 - 9,999
$10,000 - 14,999
$15,000 - 24,999
$25,000 or more

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[2]The difference in progressivity between the income tax and the property tax derives in large part from the circumstance that city residents in the lowest two income groups pay quite low state income taxes, but bear a reasonable share of the burden of property taxes because of asset ownership, which may be high relative to income, as discussed above in the text.

[3]U.S. Bureau of the Census, *Statistical Abstract of the United States: 1978*, Washington, D.C., 1978, Table 434.

[4]Total tax rates for each income class (total taxes paid divided by total income) will of course differ from those calculated with the local component only. To see how the total effective tax rates differ in their effects across income groups, see appendix Table A.4. Later on in this chapter we discuss the index of tax proportionality used in Table A.4.

[5]Income, as we defined it in Chap. 4, includes the net imputed rent on owner-occupied dwellings plus total money income.

[6]These income groups apply to the year 1976. For preceding and subsequent years, the dollar values of the groups were adjusted for inflation by use of the Consumer Price Index. For example, in 1979 the boundaries in current dollars were actually:

$ 0 - 8,017
$ 8,018 - 11,454
$11,455 - 17,181
$17,182 - 28,635
$28,636 or more

Table 5.1 summarizes the information in Table A.1 for all income groups combined. Differences across states must be interpreted in light of the fact that the pre- and post-limit years vary from state to state. In California, this means a contrast between tax burdens in 1976 and 1979. For New Jersey, we compare burdens in 1974 and 1978, while for Kansas we compare burdens in 1969 and 1978. Despite this nonparallelism, some rough cross-state comparisons are possible, and of course results for cities within a given state are directly comparable.

Residents of California cities, contrary to the expectations held by observers of the Proposition 13 campaign, did not carry consistently heavier burdens than those in New Jersey. Of course, even in the pre-fiscal-limit period, Californians also paid a hefty state income tax, so that the weighted (by 1970 population) average across the four California cities for *all* state and local taxes was 19.1 percent of income[7] (in 1976), slightly above the weighted average for the New Jersey cities, which registered 17.6 percent (in 1974).[8] (Also, California taxpayers anticipated large future tax increases because property prices—and thus assessments—were growing so fast.) In both states, the cities with the highest property tax burdens at the beginning tended to get the most relief in the subsequent period, as witness Oakland, where

Table 5.1

CHANGE IN EFFECTIVE TAX RATES ASSOCIATED WITH FISCAL RESTRAINTS

	Property Tax Only		All State and Local Taxes	
City	Before %	After % Change	Before %	After % Change
Kansas City	6.3	+2.2	11.6	+4.7
Wichita	6.7	+1.1	12.0	+3.5
Camden	10.4	-2.7	18.7	-1.0
East Orange	11.8	-2.3	18.8	-1.2
Montclair	17.6	-3.7	23.7	-2.6
Newark	7.8	-1.3	16.4	-1.5
Cerritos	8.6	-3.2	17.3	-1.9
Compton	5.3	-1.5	13.4	-0.5
Los Angeles	9.8	-3.5	19.1	-2.1
Oakland	11.3	-4.8	20.4	-2.4

SOURCE: Tables A.1-A.10.

NOTE: As described in Chap. 4, we used two methods to estimate actual property tax rates. The Advisory Commission on Intergovernmental Relations reports property tax rates for single-family homes insured by the FHA, while the U.S. Bureau of the Census provides data that allow us to estimate rates for all taxable property. Neither the effective tax rates nor the regressivity measures differed appreciably as a result of using data developed from these alternate sources. We therefore report results based on the Census data, because of their broader coverage.

the burden fell by 4.8 percentage points, and Montclair, where it dropped by 3.7. Cities with low per capita income and high minority concentration, such as Newark and Compton, had relatively low effective rates on property tax mainly because they received a high proportion of their revenues from state and federal grants[9] —and got relatively little relief from the fiscal limit.

Kansas began as a low-taxing state; the burdens for all state and local taxes ran about two-thirds of the levels experienced in California and New Jersey. Despite the property tax lid law, burdens rose between 1969 and 1978 (the longest of the periods observed in any state) though the rise was less for property taxes than for all nonfederal taxes. Kansas City residents suffered larger increases in both tax categories than did those in Wichita, perhaps because intergovernmental grants rose so sharply for Wichita.[10]

Moreover, in Kansas the annual average rate of increase for state and local taxes per capita was only 8 percent between 1970 and 1978. For the United States as a whole (i.e., the weighted average for all states) and for California, the equivalent rates of increase were 10 percent; in New Jersey it was 11 percent in that period. Unlike the United States as a whole and our two other sample states, state and local taxes in Kansas as a fraction of personal income were actually lower in 1977 than in 1960 (though not so low as in 1970).[11] The lid law appears to be associated with a slowdown in Kansas tax burden growth, compared with the rest of the nation.

The relationship between effective tax rates and nature of city is more complex. In California, the large central cities, Los Angeles and Oakland, carry the heaviest burdens for property taxes and for all taxes as compared with suburbs such as Cerritos and Compton. Both Kansas City and Wichita are central cities of their respective metropolitan areas and look rather similar. In New Jersey, on the other hand, the only central city is Newark; the other three towns are suburbs (of Newark in the cases of East Orange and Montclair, and of Philadelphia in the case of Camden). But Newark has the lowest rates and Montclair the highest. However, the per capita income of Montclair is 2.4 times that in Newark while Los Angeles's "affluent" suburb in this study, Cerritos, had a per capita income only 2 percent higher than that for Los Angeles.[12] Residents of wealthy locales may tax themselves more heavily to pay for more services and may also be harder hit by taxes imposed by the state.

THE EFFECTS OF FISCAL RESTRAINTS ON TAX BURDEN DISTRIBUTION

By "distribution" we mean the relative burdens carried by the various income classes into which a city's residents fall. We first examine variations in effective tax rates across the five income groups and then discuss indices which were designed to show whether taxes borne in

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[7]"Income" here includes imputed rent.

[8]See Table 3.4 for city populations.

[9]About 60 percent in Newark (see Table 3.8; Camden was also near this fraction) and about 50 percent in Compton (see Table 3.10).

[10]From about 21 percent of all state and local revenues in 1969 to about 40 percent in 1978. (See Table 3.6.) In Kansas City the intergovernmental share was only about 22 percent by 1978.

[11]From various editions of U.S. Bureau of the Census, *Statistical Abstract of the United States*, Washington, D.C.: 1962, Table 552; 1972, Table 661; 1978, Table 724; 1979, Tables 487 and 729.

Important: Note that all figures in this paragraph refer *not* to tax burdens as we calculate them, but rather to the simple result of dividing total taxes collected by state and local governments by total income in a state.

[12]See Table 3.4.

a particular place are proportional, regressive, or progressive in their incidence.[13] Figures A.1 through A.10 in the appendix depict effective rates for all state and local taxes (including both national and local components of the property tax) for each income group in each city, before and after the institution of the fiscal limit. Generally, the pattern is U-shaped, reflecting that effective rates are relatively high for the lowest income group, decline for the next group, and then rise, so that for the highest income group the rates generally register slightly below the rate for the lowest.[14]

The results for Oakland are shown in Fig. 5.1 because it is fairly typical of our eight cities in California and New Jersey, in both the amount of decline in burden and in the nature of the before-and-after effective tax rate patterns across income classes.[15] Here we see that effective rates for the lowest income group dropped from about a 31 percent burden to about a 27 percent burden, and for the highest income group from about 25 percent to 23 percent, meaning that although the lowest income group started and ended with a heavier burden, it received a larger relative amount of relief. It is interesting that in both Camden and Compton, which are low-income, heavily minority cities, an increase in burden for the highest income groups was associated with the fiscal limit.[16] This phenomenon may be explained, respectively, by the institution of state income taxation in New Jersey and by the increasingly progressive (i.e., before indexation) income tax in California.

A widely accepted measure of tax proportionality was developed by the public finance economist Daniel Suits.[17] The Suits measure ranges from +1.00 for a perfectly progressive tax (the highest income group pays all the taxes) to −1.00 for a perfectly regressive tax (the lowest income group pays all the taxes). A value of 0 indicates a proportional tax (each group pays the same fraction of its income in taxes). Table 5.2 presents the Suits measure for property taxes and for all state and local taxes in each city, before and after the fiscal limit.

The first thing to note is that none of the measures is very far from zero, which implies that the total local and state tax system has a roughly proportional incidence on residents in

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[13]Proportional taxes take an equal fraction of the income of each class. Regressive taxes take higher shares of the incomes of lower-income groups and progressive taxes take larger shares from higher-income groups.

[14]Some explanations for the heavy burdens borne by the $0-7,000 income group were discussed above.

[15]Note that in both Kansas City (Fig. A.1) and Wichita (Fig. A.2) the earlier, 1969, curve lies below the later, 1978, curve and that both are flatter than is the case for New Jersey or California cities, i.e., they imply a more proportional tax system.

[16]Figures A.3 and A.8.

[17]Suits (1977). The Suits formula is based on the Gini coefficient often used to characterize income distributions and is defined as follows for purposes of calculation:

$$S_x = \sum_{i=1}^{n} (1/2)\,[T_x(y_i) + T_x(Y_{i-1})]\,(y_i - y_{i-1})$$

where S_x = the index of progressivity for tax x,
$T_x(Y_i)$ = the accumulated percent of the total burden for tax x on income class i, and
y_i = the accumulated percent of total income received by income class i.

A Gini coefficient has certain weaknesses that ought to be acknowledged. For example, it is relatively sensitive to inequality in the middle of the income distribution, but less sensitive to inequality at the extremes of the distribution. See also Guthrie (1979, pp. 93-95).

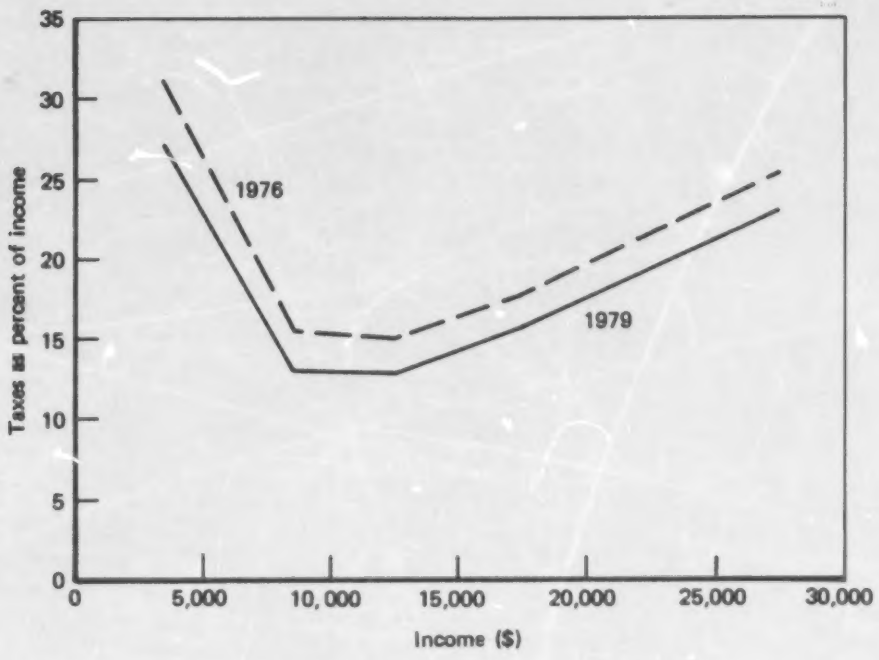

Fig. 5.1—Effective tax rates in Oakland

Table 5.2

SUITS MEASURES OF TAX PROPORTIONALITY, BEFORE AND AFTER FISCAL LIMITS

	Property Tax		All State and Local Taxes		
City	Before	After	Before	After	Change in Measure
Kansas City	+.026	+.050	+.021	+.047	+.026
Wichita	+.030	+.042	+.003	+.035	+.032
Camden	-.077	-.059	-.044	-.011	+.033
East Orange	-.142	-.023	-.128	-.024	+.104
Montclair	+.084	+.082	+.057	+.052	-.005
Newark	-.077	-.079	-.024	-.026	-.002
Cerritos	+.076	+.089	+.077	+.103	+.026
Compton	+.010	+.012	+.028	+.056	+.028
Los Angeles	+.068	+.095	+.055	+.075	+.020
Oakland	+.061	+.050	+.051	+.065	+.014

these cities.[18] The California and Kansas cities are in the progressive range before and after the fiscal limits, while those in New Jersey, except for Montclair, are in the regressive range.[19]

In Kansas, property taxes are slightly more progressive in their incidence than are all state and local taxes combined, with a few exceptions, the same finding generally applies in California cities and in Montclair. This is the case both before and after the fiscal limit. In the other three New Jersey cities, in contrast, property taxes tend to be more regressive than are the state and local systems in their entirety.

What has been the effect of the fiscal limitations and other restraints on local fiscal patterns in our case-study cities? We will concentrate our attention on the changes that have occurred in the proportionality measures for all state and local taxes, since there is no a priori reason to expect that a simple reduction in the prominence of the property tax will itself change the incidence of that tax.

In every city except Montclair (and in Newark, where it hardly changed), the state and local tax system became more progressive or less regressive after the imposition of the limits, which is contrary to what we would have expected from a reduction in property taxes unaccompanied by other changes (given the conclusion that property taxes are borne by owners of land and capital).[20] We believe that this effect is largely due to the shift from dependence on property taxes to dependence on a progressive income tax. This shift was associated with the imposition of the fiscal limitation (see Chap. 3.[21] Montclair and East Orange, it should be noted, are the cities most reliant on property taxes in both the before and after periods. In those cities, the dependency reached 60 percent; the other cities in New Jersey and California derived less than a third of their revenues from this source.[22] And in East Orange, only 25 percent of the residents

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[18]Our results are similar to what Suits (p. 750) reports for U.S. state and local taxes as of 1970. He finds corporate income taxes to be more highly progressive, while sales and excise taxes are more regressive. The Suits measures for 1970 were as follows:

Individual income tax	+ .19
Corporate income tax	+ .32
Property tax	+ .18
Sales and excise tax	- .15
Payroll tax	- .13
All federal taxes	+ .091
All state and local taxes	+ .027
All taxes	+ .070

The measures we derive for property taxes, which range from −.142 (East Orange, before limit) to +.095 (Oakland, after limit) are substantially below Suits' own result for all U.S. property taxes. Several explanations are possible: (1) states with less progressive property taxes are more likely to institute fiscal limitations so that our three states are not typical of the nation; (2) our method of tax allocation results in the export of some property tax out of the jurisdiction disproportionately to higher income classes, which lessens the progressivity within the jurisdiction; (3) allocation methods employed by Pechman and Okner (1974), whose data Suits uses, differ from ours (see Chap. 2).

[19]The reason why the Suits measure for Montclair is positive, even though its lowest income class bears such a high burden in comparison with the other New Jersey cities that have *negative* Suits measures, is that in Montclair there is a relatively low fraction of all city residents' income that accrues to the lowest group.

[20]The unweighted average change in the all-state-and-local-taxes measure for our ten cities was +.028. Suits found a change for these same taxes of −.018 between 1966 and 1970 (p. 750). The explanation of the discrepancy probably lies in the fact that California, Kansas, and New Jersey were experiencing large increases in the prominence of the income tax during our observation period, while other of the 47 states may have been introducing or increasing the more regressive sales tax during the period of Suits's analysis. Guthrie (p. 94), using a slightly different method, finds a much smaller downward shift in all-state-and-local-taxes progressivity.

[21]It should also be noted that a "correct" definition of income—which measures it as a function of stage in the life-cyle—would have the effect of pushing low-money-income earners, many of whom pay substantial taxes, into higher income brackets. Thus, our methods tend to understate the progressivity of taxes.

[22]See Tables 3.6, 3.8, and 3.10.

were owner-occupiers, while the figure for Montclair was 53 percent.[23] Montclair also had a per capita income in 1977 that was 40 percent higher than that of Cerritos, the next highest city, and 66 percent higher than that of East Orange (see Table 3.4). In systems where property taxes are less prominent and owner-occupiers less numerous, a reduction in such taxes will have less effect on the ultimate proportionality of the system.

Changes in tax proportionality appear to have little relationship to the demographic and economic characteristics of the individual cities. The larger cities do seem to exhibit somewhat less movement toward progressivity than do the smaller, however, and there is a slight tendency for cities with more rapid population growth between 1970 and 1980 to show an increase in progressivity. Because none of these findings are very pronounced, however, and the sample is so small, generalizations are hard to draw.

Note that, to this point, we have been discussing changes in tax proportionality based on inclusion of both the national and local components of the property tax in our measures. Had we included only the local component in the before-and-after comparisons, the overall movement toward progressivity would have been even stronger, although in none of the ten cities was the change in the Suits index more than .065 (see appendix Table A.4).

In sum, it would appear that it is the relative importance of the property tax, and the progressivity of the taxes that replace it, rather than the form of fiscal restraint or the nature of the city, that determines the change in overall tax proportionality.

CHANGES IN TAX BURDENS FOR OWNER-OCCUPIERS

Given our conclusions in Chap. 2 about the allocation of the burden of the property tax, there will be differential effects depending on whether a household owns or rents its dwelling. In our reasoning, owners get a break directly when property taxes on their dwellings fall.[24] Table 5.3 suggests what the changes in effective tax rates (i.e., percentage point change in total-taxes-as-a-percent-of-income) might be for each city by income class and tenure. More complete information about the changes for each city appears in appendix Table A.2.

These findings are not strictly comparable to the changes in tax rates shown in Table 5.1. For that table, it was assumed that possession of land and capital—directly or through interests in corporations, partnerships, and proprietorships—occurred for both owner-occupiers and renters in all income classes. All such asset holders were thus assumed to bear the burden of property taxes. Here we discuss only the change in effective tax rates (i.e., pre- and post-fiscal-limitation) experienced by owner-occupiers as a result of cuts in nominal property tax rates, changes in dwelling values, and changes in real income. These figures are purely hypothetical in that they illustrate the course of events for the average household in the class, and assume that the same rates of appreciation in real estate and the same rates of growth in real income occur for all households. They are thus meant to be illustrative of trends and not directly descriptive of actual households. The calculations suggest changes experienced by owner-occupiers but cannot, for example, be deducted from the rates shown in Table 5.1 since those figures are already net of property tax changes and the effects are spread over renters and owner-occupiers.

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[23]U.S. Bureau of the Census, *County and City Data Book, 1977*, Government Printing Office, Washington, D.C., 1978, Table 4.

[24]Renters will also benefit, but indirectly. Our reasoning is not that renters will benefit when landlords pass through property tax reductions; rather, renters benefit because they may own land in the area. If they do, the local component of property taxes borne by renters will fall.

Table 5.3 reveals that the burden of (hypothetical) taxes on homes, which for all cities is greatest in the lowest income class and diminishes as income rises, went down in all cities when the pre- and post-fiscal-restraint periods are examined. And the percentage point measure of relief was consistently larger for the lower income classes than for the higher. As column (11) of Table 5.3 shows, the tax burdens related to homes were particularly high in the cities in New Jersey's Essex County (East Orange, Montclair, and Newark). But reductions were largest (column 12) in the California cities affected by Proposition 13.[25] Oakland residents, who bore the heaviest burden among our California cities, also enjoyed the most relief. Within each state, the more affluent cities, which also have the lowest fractions of minority population, experienced the least relief from reductions in the tax on dwellings.

Property taxes are deductible under the income tax laws, of course.[26] Appendix Table A.3 indicates for California residents—the only state in which the dollar value of property taxes on the hypothetical dwellings actually fell—the increased state and federal income tax obligations that resulted. The table for Los Angeles, typical of the four cities, is reproduced as Table 5.4. For the highest income class, obligations rose, for state and federal income taxes combined, by more than $400. Thus the 3.3 percent reduction in burden shown in Table 5.3 overstates the relief.[27] The downward adjustment for the relief indicator would be relatively less for the lower-income groups. The general effect of taking into account the interrelations among federal, state, and local taxes is difficult to predict; it will depend on the distributional burden of the state and local taxes that are raised and lowered.

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[25]For these hypothetical calculations, it was assumed that the California taxpayers remained in their original dwellings during the period. Under Proposition 13 a property is reassessed at the new market value when it changes hands.

[26]So are other taxes collected by states and localities, such as sales taxes. We have not analyzed them, however, because in none of our states were there major changes in these other taxes. In the analysis that follows for California, we do take into account the *net* (i.e., federal plus state) change in income taxes.

[27]The average high-income homeowner in Los Angeles enjoyed a (hypothetical) $1,040 reduction in property taxes (see appendix Table A.3), but adding the $410 of additional income taxes back in means that the reduction in burden was only 2.4 percentage points.

Table 5.3

Change in Effective Property Tax Rates on Dwellings for Hypothetical Owner-Occupiers, by Income Class and City

	Income Class[a]											
	0-6,999		7,000-9,999		10,000-14,999		15,000-24,999		25,000 or More		All Classes Combined[b]	
City	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
Kansas City	9.1	-1.1	5.6	-0.6	5.6	-0.2	3.6	-0.1	2.9	-0.2	5.7	-0.5
Wichita	10.3	-5.8	6.4	-3.1	4.8	-2.2	3.8	-1.8	3.0	-1.5	5.8	-2.9
Camden	22.3	-7.1	14.8	-4.2	11.4	-3.0	9.3	-2.8	7.6	-1.9	14.1	-4.0
East Orange	60.2	-6.5	40.0	-4.2	26.4	-2.9	18.7	-2.2	13.5	-1.3	31.8	-3.4
Montclair	45.2	-9.0	29.6	-4.9	19.3	-3.0	13.5	-2.2	8.5	-1.6	17.6	-3.1
Newark	48.2	-8.4	30.5	-5.0	20.3	-3.2	14.4	-2.5	10.6	-1.7	28.6	-4.8
Cerritos	18.7	-10.9	11.9	-6.9	8.8	-5.1	6.3	-3.7	4.9	-2.8	9.6	-5.5
Compton	21.9	-12.1	13.5	-7.9	9.9	-5.8	7.2	-4.2	6.1	-3.6	13.6	-7.7
Los Angeles	21.6	-13.9	12.8	-8.2	9.5	-6.1	6.8	-3.4	5.1	-3.3	10.6	-6.8
Oakland	27.0	-17.8	16.6	-11.0	11.6	-7.6	8.5	-5.6	6.0	-3.9	14.5	-9.5

SOURCE: Tables A.11 to A.20.

NOTE: "Before" figures are in percent; "after" figures are changes in number of percentage points.

[a]Class boundaries in 1976 dollars.

[b]Weighted average (by number of households in 1976).

Table 5.4

INCREASED INCOME TAX OBLIGATIONS RESULTING FROM PROPERTY TAX CUTS IN LOS ANGELES, BY INCOME CLASS

Income Class	(1) Property Tax Cut, 1976-79[a] ($)	(2) Avg. Marginal Income Tax Rate: State[b] (%)	(3) Avg. Marginal Income Tax Rate: Federal[c] (%)	(4) Additional Income Tax Obligations: State ($)	(5) Additional Income Tax Obligations: Federal[d] ($)
$0-6,999	590	3	16	18	92
$7,000-9,999	590	5	20	30	112
$10,000-14,999	640	5	24	32	136
$15,000-24,999	720	7	29	50	194
$25,000 or more	1040	11	32	114	296

[a] Source: Table A.19.

[b] See note *(b)*, Table A.21.

[c] See note *(c)*, Table A.21.

[d] These obligations are net of assumed *increase* in state income tax obligations resulting from the reduction in property tax, i.e., Col. (5) = Col. (3) x [Col. (1) - Col. (4)].

Chapter 6

CONCLUSIONS

As we warned the reader in Chap. 4, the needed data for performing the analysis we have undertaken in this study were often either unavailable or of suspect accuracy. In addition, it is necessary to make a myriad of assumptions, many of them unavoidably arbitrary, in allocating state and local taxes by location and by income class. Chapter 3 shows how widely the taxing jurisdictions vary in size, demographics, and economic base. Particularly variable across the cities is the degree of fiscal dependence on the property tax, which, as we point out above, affects the contribution of property tax reform to changes in overall tax proportionality. Finally, as Chap. 2 implies, the process of tax capitalization, and thus the speed at which tax burdens find their ultimate bearers, may take considerable time. Still, we can attempt to draw some general conclusions.

EFFECTIVE TAX RATES

As illustrated in Fig. 6.1, taxpayers in all the California and New Jersey cities enjoyed a reduction in tax burdens, measured as fraction of personal income, after the adoption of their fiscal limits laws. In Kansas, the state with the longest time period between the pre- and post-limit years studied, the tax burdens rose, bringing them, by 1978, close to the level for Newark and the smaller California cities. No particular relationship between change in burden and size and function of city is apparent. There is, however, a slight tendency for residents of more affluent cities to bear higher tax burdens. Both before and after fiscal limits, the lowest income group bore the highest relative burden.

TAX PROPORTIONALITY

Generally, tax systems began as progressive (except in New Jersey). Montclair and Newark were the only cities of the ten cities in which the system did not move in the progressive direction when the pre- and post-limitation periods were compared on measures of tax proportionality. Figure 6.2 portrays the phenomenon. The substitution of the more progressive income tax for property taxes, the increased property tax relief on dwellings for the lowest income class, and the slightly increasing concentration of capital ownership in the higher income brackets were probably responsible. The most regressive systems—characteristic of poorer New Jersey cities—moved fastest toward progressivity.

SPECULATIONS ON THE FUTURE

As the pressure for fiscal containment continues, local and state revenue systems will find it harder and harder to support traditional levels of public services. Although service cutbacks have not been substantial as yet, appreciable reductions appear to be in the offing, especially

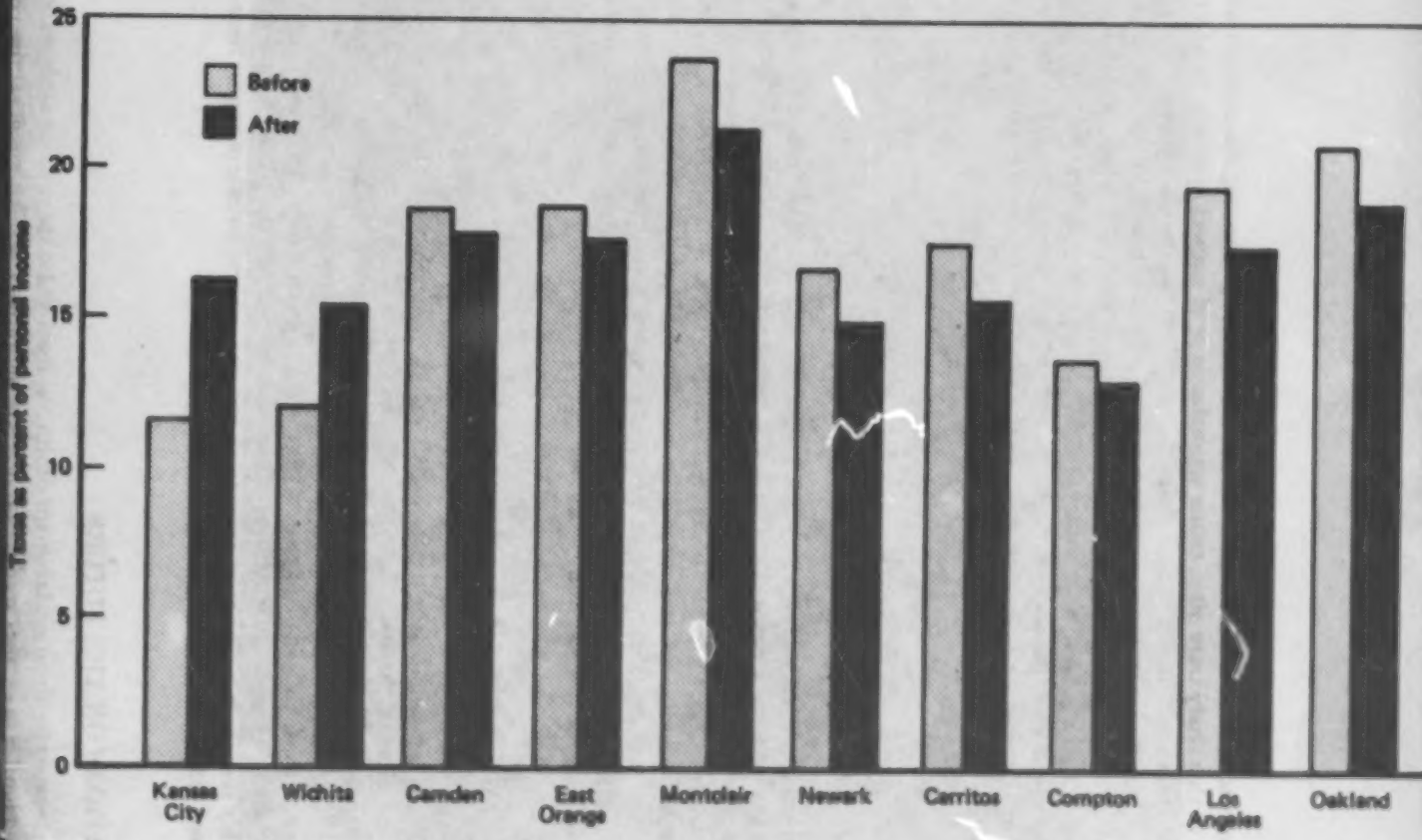

Fig. 6.1—Effective tax rates for all state and local taxes, before and after fiscal limits

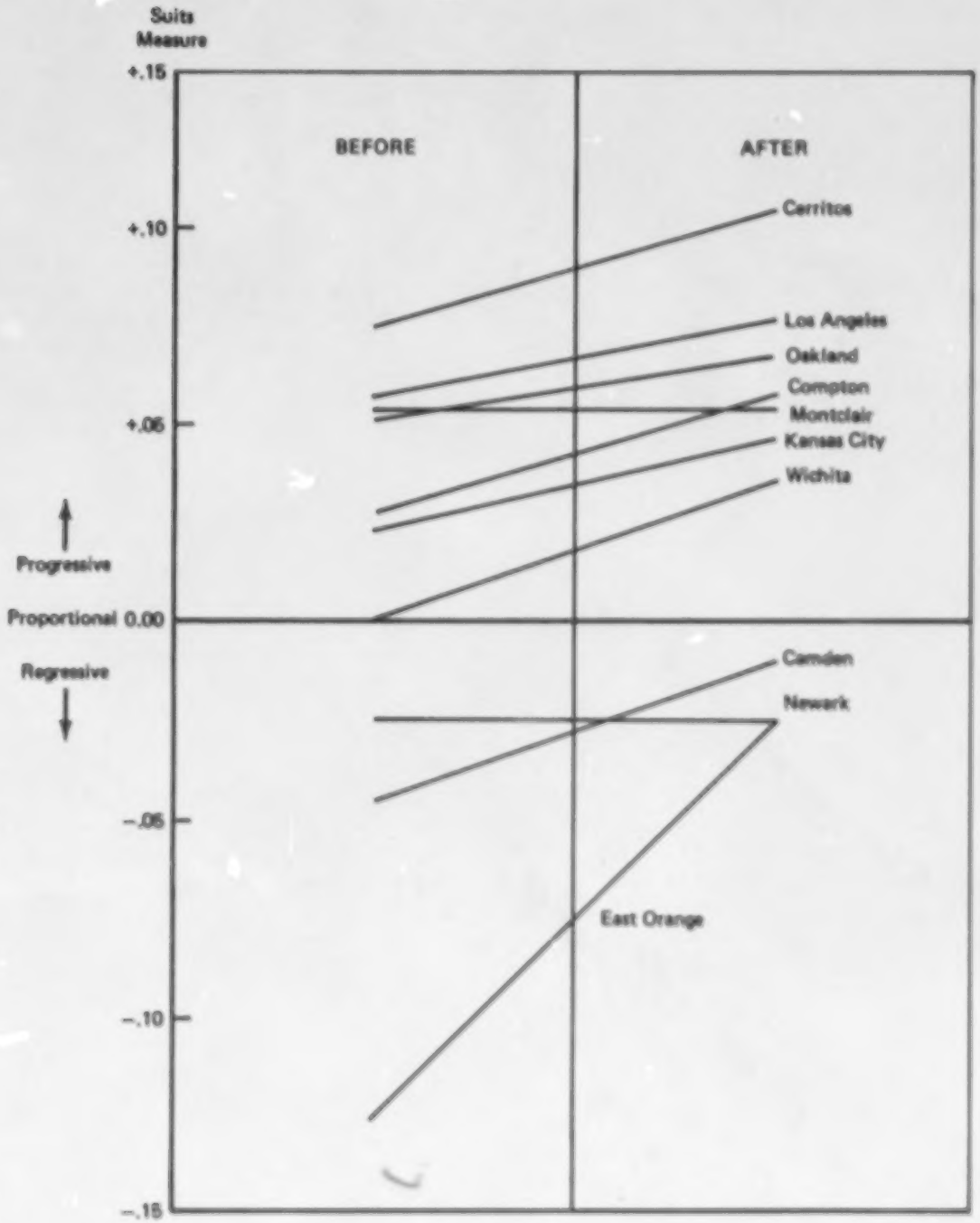

Fig. 6.2—State and local tax proportionality measures, before and after fiscal limits

in California.[1] As they occur, state and local governments may begin searching for new revenue sources. Two sources that have received increasing attention are user fees and charges, and higher levels of taxation on business property. Although we have performed no empirical analyses of these issues, we conclude by offering some thoughts on them.

User Charges

Charging users the marginal cost necessary to produce the public services they use may have great appeal from the standpoint of *efficiency*, since households will then use services in the amounts they are willing to pay for.[2] User fees may also stimulate more efficiency in the production of services. Such efficiencies can come about either by instituting fees in government agencies—e.g., for trash collection, building inspections, library privileges, etc.—or by what is sometimes referred to as "load shedding plus privatization." In the latter, the public agency stops producing a public service on the assumption that private organizations will step in to provide it on a fee-for-service basis. This has already occurred for summer schooling in many parts of California.

Both user charges and load shedding may, however, have serious implications for *equity* in the finance and distribution of public goods, with the poor hit hardest if they are relatively large users of the services.[3] The subsidies to the poor inherent in an approach financed by progressive forms of taxation—the property tax and individual and corporate income taxes—will disappear as each consumer begins to pay the full cost of services used. Lower-income groups will find themselves devoting a higher fraction of income toward the consumption of heretofore free services than will the more affluent. The net result will be a move in the regressive direction that will counteract the progressive tendencies we have observed in this study.

Certain devices can lessen the regressivity of such market-oriented reforms. Instead of simply abandoning a particular service, for example, the government could decide to continue to support some consumption through vouchers or other subsidy mechanisms, while allowing nongovernmental organizations to provide the services. Such a device would maintain the benefits of competition while protecting the interests of lower-income groups. It would not work directly to reduce government budgets, of course, except to the extent that private provision reduced overall costs.

Other devices also promise to relieve inequities. Charges imposed can be graduated according to the income of the using household, at some increase in administrative costs. Or a basic level of service could be provided free of charge while increments would require a payment from households.[4]

Split Tax Rolls

The level of taxation on business properties—industrial, commercial, rental units—is often increased by "splitting the roll." Assessments or tax rates, or both, on such property are set

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[1] See Menchik et al. (1981).

[2] Whether user charges are in fact efficient will depend on the mechanism used for setting the level of charges.

[3] By "relatively large users" we mean people who, as a group, account for a greater share of total use of a service than is their share in total tax burdens. (This condition will be likely to hold for those public services that have a low income-elasticity of demand.)

[4] In general on this topic, see Pascal (1980).

at a higher level than those applied to owner-occupied housing. According to the reasoning we have employed in this study, if such rate increases are a local phenomenon, the ultimate burden of such tax increases will fall on owners of local land. If tax increases on business property are nationwide, their burden falls on all owners of land and capital. In this latter case, since capitalists and landlords tend to be found in the higher income classes, split rolls would imply increased tax progressivity.

REVENUE SYSTEMS AND EQUITY

The net effects on the overall distribution of burdens will depend on the eventual balance struck in tapping the various sources of local and state revenue: property taxes on dwellings and business (net of rebates), sales taxes, user charges, individual and corporate income taxes, and grants from higher levels of government.[5] The nature of the balance will depend on political factors, which vary from place to place.

The study reported on here demonstrates that with appropriate research, burdens can be traced to their ultimate bearers. Assessments of overall equity can then be developed.

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[5]Increases in sales taxes will usually have regressive effects while increased income taxes will usually move systems toward progressivity. We have not analyzed such changes here since we assume that the mood of voters makes unlikely any increases in broadly based taxes. Neither do we consider the effects of additional rebates to low-income taxpayers since we expect that state and local government fiscal resources will be more and more constrained.

APPENDIX: EMPIRICAL FINDINGS

This appendix contains detailed results of the tax burden calculations. Table A.1 presents the effective tax rates for each income class for property taxes, other local taxes, state taxes, and total local and state taxes. Each section of the table gives this information for one city in both pre- and post-fiscal-limit years. Figures A.1 through A.10 present the same information graphically for total local and state effective tax rates only.

Table A.2 shows the results, for each city, of the hypothetical calculations of property taxes paid by an average homeowner in each income group before and after fiscal limit laws were passed. (As explained earlier, these calculations differ from the tax *burdens* of homeowners.) Table A.3 shows how the reduction in property taxes paid would affect the state and federal income tax obligations of homeowners in California.

Finally, Table A.4 displays the Suits measure of tax proportionality when total local and state taxes include both national and local components of the property tax, as compared wth including only the local component. The comparison is made for the base year and for the final year for each case-study city.

Table A.1

Effective Tax Rates on Households Before and After Fiscal Limitation, by Income Group

Income Group	Effective Rate Before Limit					Effective Rate After Limit				
	Property[a]	Other Local[b]	All Local	State[c]	Total Local and State	Property[a]	Other Local[b]	All Local	State[c]	Total Local and State
Kansas City, 1969 and 1978										
$0-6,999	9.56	.57	10.13	7.08	17.22	11.60	1.01	12.60	9.30	21.91
7,000-9,999	5.17	.25	5.42	4.07	9.49	7.18	.42	7.60	5.59	13.20
10,000-14,999	5.11	.26	5.37	4.56	9.93	6.92	.45	7.37	6.45	13.82
15,000-24,999	5.08	.34	5.42	5.03	10.45	7.00	.58	7.58	6.79	14.37
25,000 or more	8.40	.28	8.68	5.27	13.95	11.42	.47	11.89	8.97	20.86
All households	6.31	.31	6.62	5.00	11.62	8.49	.54	9.03	7.27	16.30
Wichita, 1969 and 1978										
$0-6,999	10.52	.72	11.24	7.15	18.39	11.02	.91	11.93	9.39	21.32
7,000-9,999	5.82	.36	6.18	4.07	10.25	6.89	.45	7.34	5.53	12.88
10,000-14,999	5.45	.38	5.83	4.59	10.42	6.37	.48	6.85	6.42	13.27
15,000-24,999	5.29	.35	5.64	5.00	10.64	6.29	.44	6.73	6.75	13.48
25,000 or more	8.29	.25	8.55	4.81	13.36	9.77	.32	10.10	8.44	18.53
All households	6.72	.36	7.08	4.92	12.00	7.82	.45	8.27	7.26	15.53
Camden, 1974 and 1978										
$0-6,999	16.06	1.17	17.23	10.25	27.48	11.41	1.91	13.32	10.94	24.26
7,000-9,999	9.02	.65	9.67	5.43	15.10	6.58	1.06	7.64	5.73	13.37
10,000-14,999	8.05	.72	8.77	5.06	13.84	5.91	1.17	7.08	5.60	12.67
15,000-24,999	7.73	1.23	8.96	5.64	14.61	5.74	2.01	7.76	6.65	14.40
25,000 or more	9.45	2.06	11.51	6.79	18.30	7.42	3.36	10.79	7.87	18.66
All households	10.40	.13	11.71	6.96	18.67	7.70	2.13	9.84	7.82	17.66

Table A.1—continued

Income Group	Effective Rate Before Limit					Effective Rate After Limit				
	Property[a]	Other Local[b]	All Local	State[c]	Total Local and State	Property[a]	Other Local[b]	All Local	State[c]	Total Local and State
East Orange, 1974 and 1978										
$0-6,999	22.47	.88	23.35	10.30	33.65	17.77	.73	18.51	10.05	28.56
7,000-9,999	9.74	.46	10.20	5.30	15.50	7.86	.39	8.24	5.60	13.84
10,000-14,999	12.27	.53	12.80	7.56	20.36	10.06	.44	10.50	8.35	18.86
15,000-24,999	8.40	.48	8.89	5.36	14.25	6.84	.41	7.25	6.19	13.45
25,000 or more	14.58	.89	15.39	6.47	21.87	11.65	.69	12.33	7.52	19.85
All households	11.82	.60	12.42	6.41	18.83	9.54	.51	10.04	7.15	17.19
Montclair, 1974 and 1978										
$0-6,999	37.62	2.88	40.50	9.49	49.99	29.00	2.21	31.22	10.60	41.82
7,000-9,999	15.00	1.37	16.37	5.35	21.73	11.91	1.05	12.96	5.83	18.81
10,000-14,999	11.83	1.04	12.88	4.89	17.76	9.47	.79	10.26	5.67	15.93
15,000-24,999	12.34	.68	13.02	5.24	18.26	10.00	.52	10.52	6.45	16.97
25,000 or more	21.01	.40	21.42	5.53	26.95	16.49	.31	16.80	6.87	23.67
All households	17.61	.65	18.26	5.47	23.73	13.93	.50	14.42	6.68	21.10
Newark, 1974 and 1978										
$0-6,999	14.83	2.20	17.02	9.88	26.91	12.34	1.50	13.84	10.48	24.32
7,000-9,999	6.90	1.32	8.22	5.36	13.58	5.83	.88	6.72	5.59	12.31
10,000-14,999	5.86	1.53	7.40	4.98	12.37	4.96	1.03	5.99	5.41	11.40
15,000-24,999	6.14	2.78	8.92	5.42	14.34	5.14	1.87	7.01	6.12	13.13
25,000 or more	9.20	4.90	14.10	6.54	20.64	7.63	3.29	10.92	7.43	18.35
All households	7.81	2.51	10.33	6.05	16.38	6.54	1.69	8.23	6.64	14.87

Table A.1—continued

Income Group	Effective Rate Before Limit					Effective Rate After Limit				
	Property[a]	Other Local[b]	All Local	State[c]	Total Local and State	Property[a]	Other Local[b]	All Local	State[c]	Total Local and State
Cerritos, 1978 and 1979										
$0-6,999	11.38	1.73	13.11	11.56	24.66	7.51	2.17	9.69	12.08	21.77
7,000-9,999	7.26	.56	7.82	5.23	13.06	4.37	.70	5.07	5.69	10.77
10,000-14,999	7.12	.36	7.48	5.80	13.28	4.25	.45	4.70	6.16	10.86
15,000-24,999	7.19	.30	7.50	7.79	15.29	4.43	.38	4.81	8.59	13.40
25,000 or more	10.86	.30	11.16	10.29	21.46	7.01	.39	7.40	12.68	20.08
All households	8.61	.39	9.01	8.25	17.26	5.40	.50	5.90	9.47	15.37
Compton, 1978 and 1979										
$0-6,999	6.50	.56	7.06	11.62	18.68	4.70	.84	5.55	12.15	17.70
7,000-9,999	4.79	.18	4.97	5.16	10.13	3.36	.28	3.64	5.61	9.25
10,000-14,999	4.87	.22	5.10	5.80	10.90	3.47	.34	3.81	6.16	9.97
15,000-24,999	4.86	.41	5.28	7.66	12.94	3.52	.63	4.15	8.56	12.71
25,000 or more	6.53	.55	7.08	10.79	17.87	4.69	.84	5.54	13.32	18.86
All households	5.34	.36	5.70	7.69	13.39	3.82	.54	4.37	8.58	12.94
Los Angeles, 1978 and 1979										
$0-6,999	13.93	3.39	17.32	11.95	29.27	6.74	3.95	10.70	12.49	23.19
7,000-9,999	7.91	1.30	9.21	5.17	14.38	5.22	1.40	6.62	5.61	12.23
10,000-14,999	7.65	1.07	8.73	5.84	14.57	5.03	1.25	6.28	6.20	12.47
15,000-24,999	7.78	1.13	8.92	7.58	16.50	5.19	1.32	6.52	8.47	14.98
25,000 or more	12.39	.88	13.27	9.80	23.08	8.16	1.03	9.19	12.09	21.28
All households	9.83	1.20	11.03	8.10	19.14	6.33	1.39	7.72	9.32	17.04

Table A.1—continued

Income Group	Effective Rate Before Limit					Effective Rate After Limit				
	Property[a]	Other Local[b]	All Local	State[c]	Total Local and State	Property[a]	Other Local[b]	All Local	State[c]	Total Local and State
					Oakland, 1978 and 1979					
$0-6,999	16.58	2.35	18.94	11.85	30.79	11.50	3.07	14.58	12.39	26.97
7,000-9,999	9.43	.92	10.35	5.12	15.47	6.18	1.12	7.38	5.56	12.95
10,000-14,999	9.16	.84	9.06	5.89	14.96	5.42	1.10	6.52	6.25	12.77
15,000-24,999	9.21	.90	10.12	7.51	17.63	6.09	1.18	7.28	8.38	15.66
25,000 or more	14.50	.84	15.34	9.97	25.31	9.43	1.07	10.51	12.40	22.90
All households	11.31	.99	12.30	8.06	20.37	7.47	1.28	8.75	9.25	18.00

[a]Includes both "local" and "national" components, based on U.S. Census sources (see Chaps. 4 and 5).

[b]Includes charges, fees, licenses, etc. (see Chap. 4).

[c]See Chap. 4 for listing of taxes in each state.

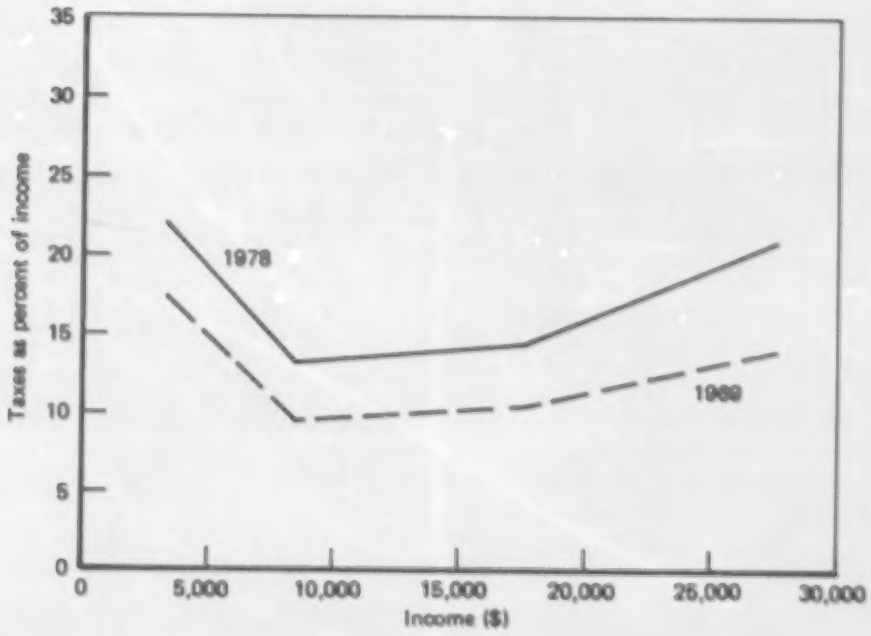

Fig. A.1—Effective tax rates in Kansas City

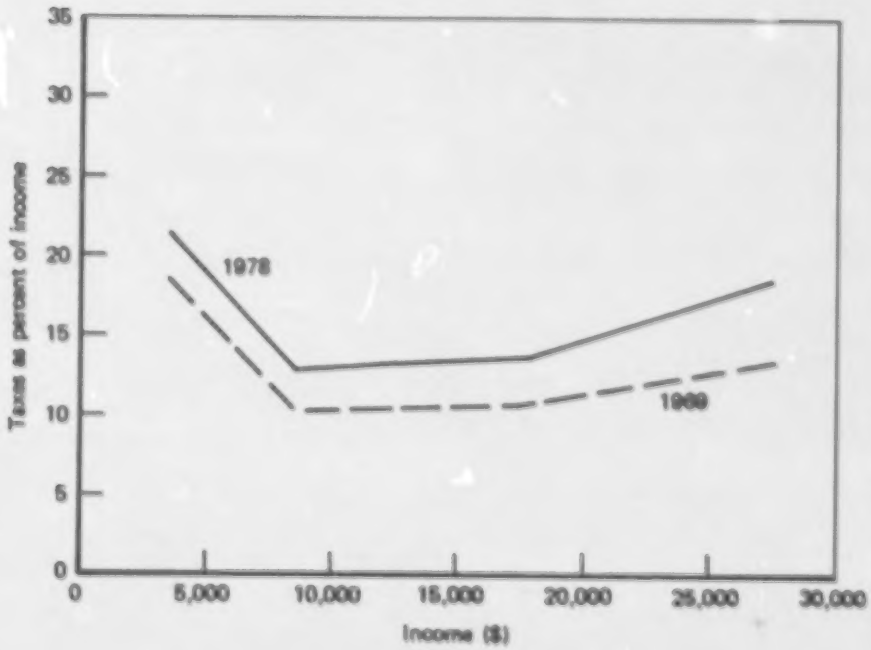

Fig. A.2—Effective tax rates in Wichita

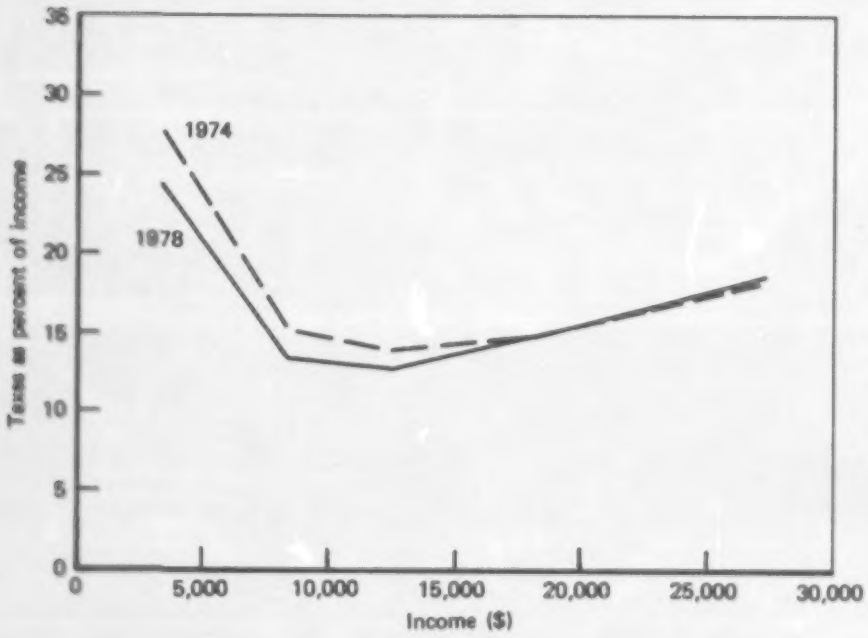

Fig. A.3—Effective tax rates in Camden

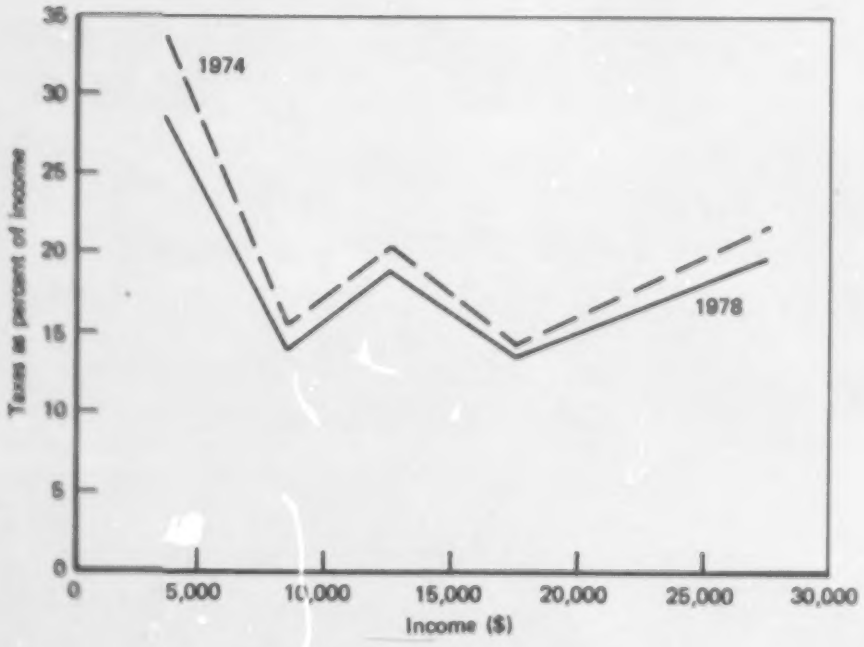

Fig. A.4—Effective tax rates in East Orange

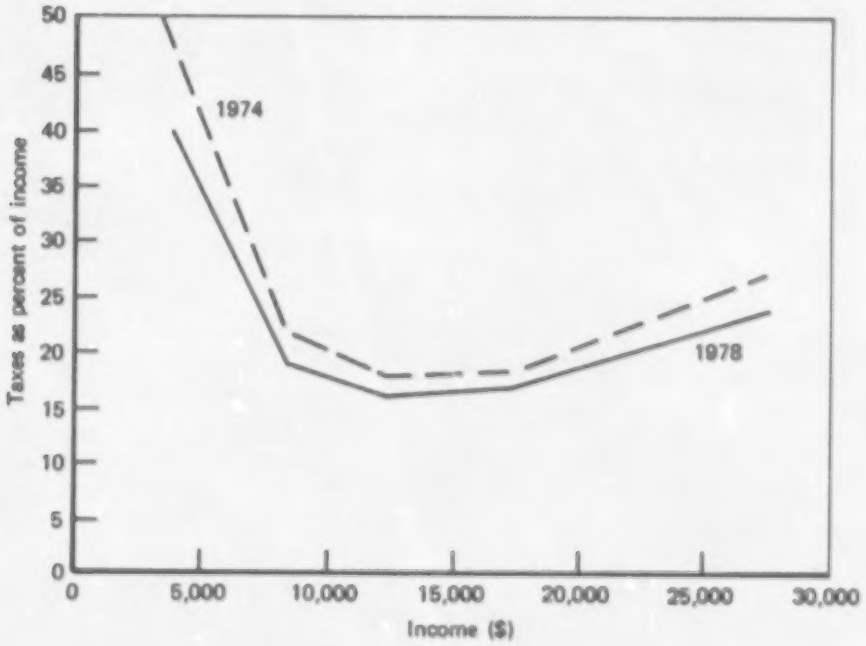

Fig. A.5—Effective tax rates in Montclair

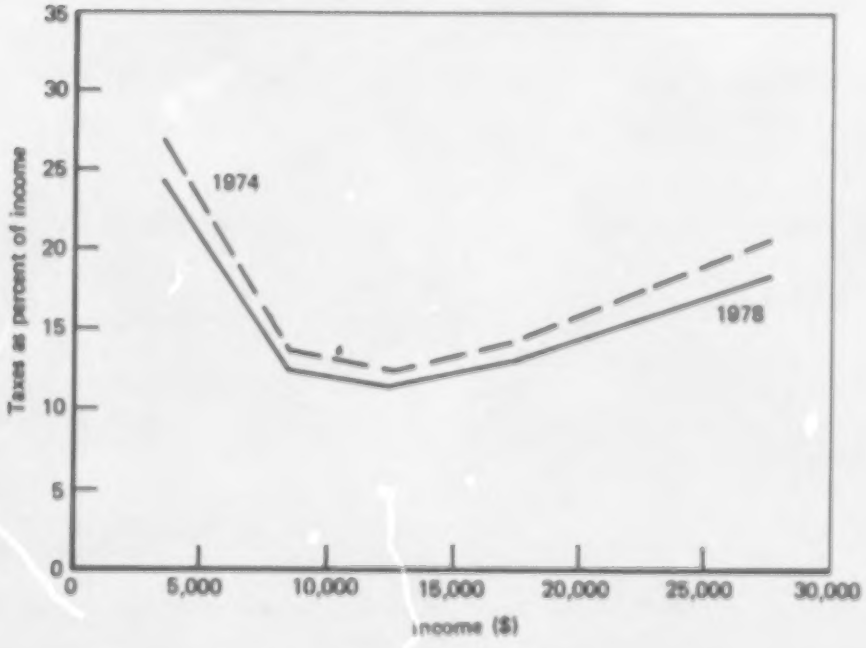

Fig. A.6—Effective tax rates in Newark

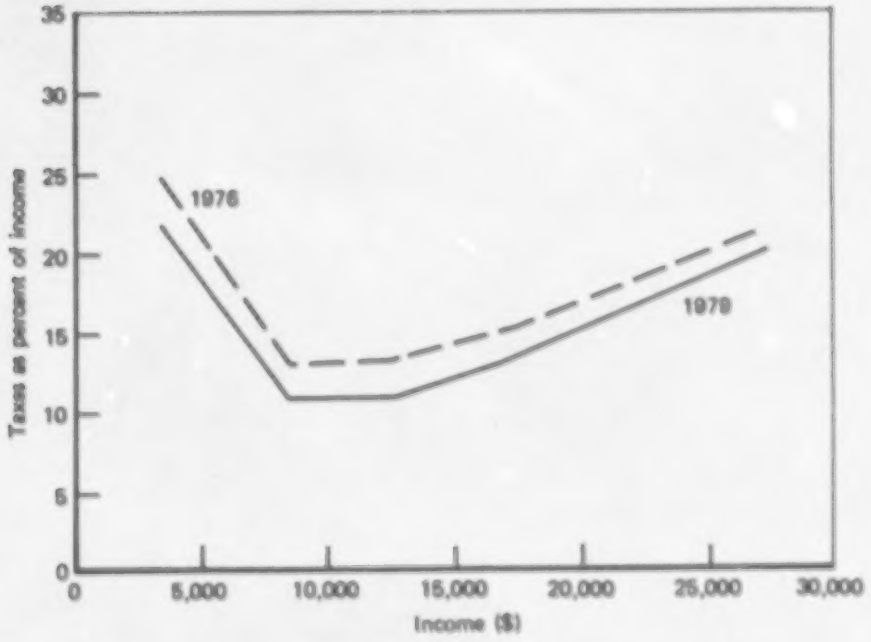

Fig. A.7—Effective tax rates in Cerritos

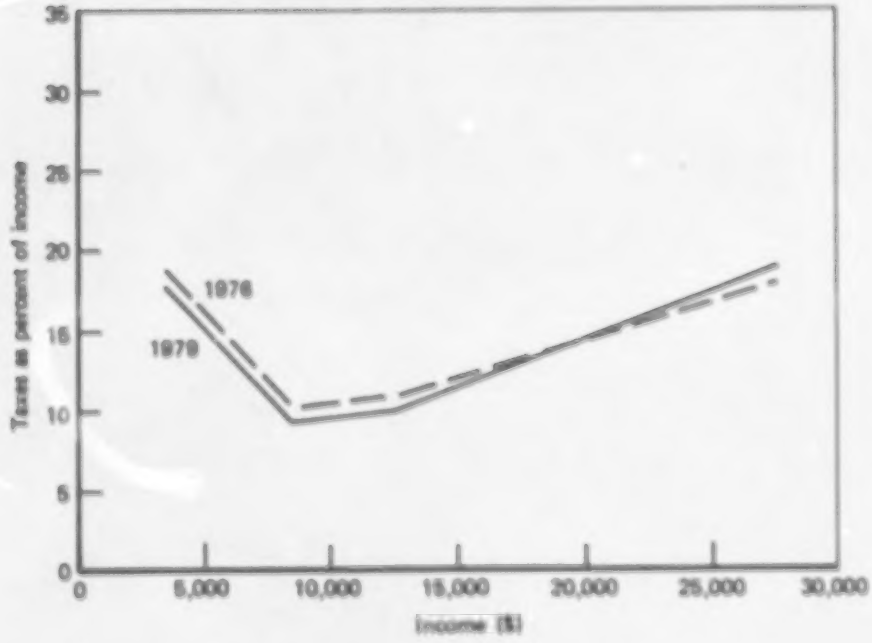

Fig. A.8—Effective tax rates in Compton

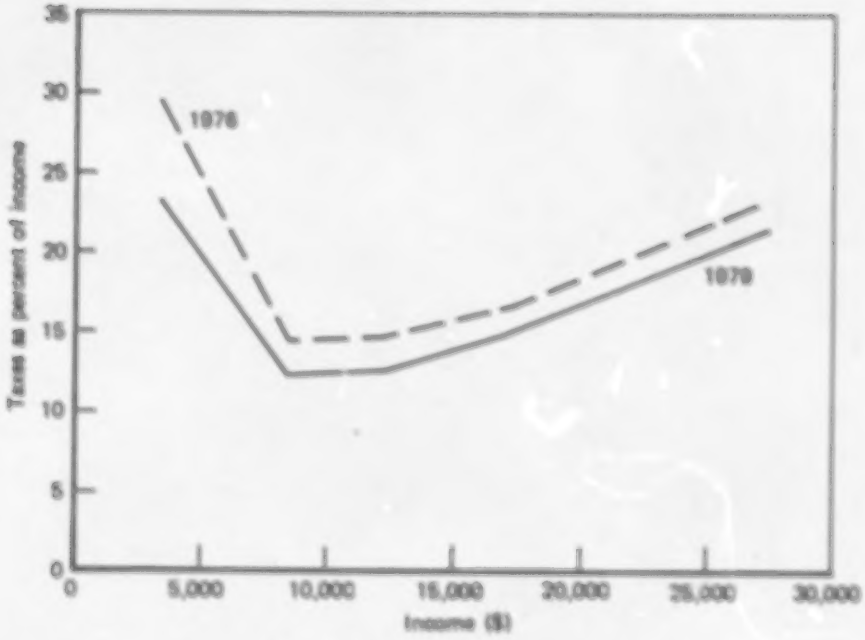

Fig. A.9—Effective tax rates in Los Angeles

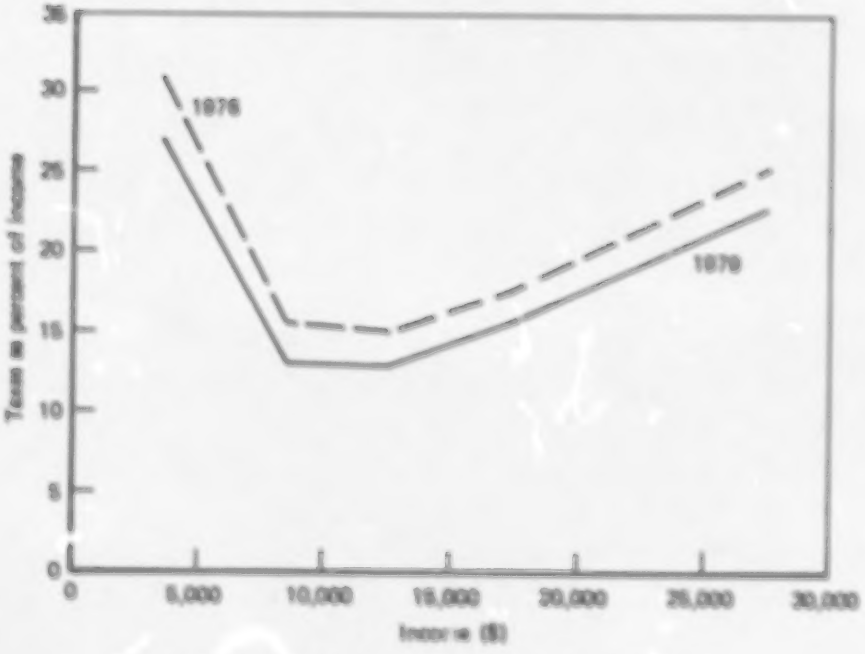

Fig. A.10—Effective tax rates in Oakland

Table A.2

Property Tax as a Percent of House Value, Housing Values, Property Tax Paid, and Average Incomes, Before and After Fiscal Restraint, by Income Group

Income Group (In $1976)	Before Fiscal Limit				After Fiscal Limit			
	Property Tax as a % of Value	Average House Value ($)	Property Tax Paid[a] ($)	Average Income ($)	Property Tax as a % of Value	Average House Value ($)	Property Tax Paid[a] ($)	Average Income ($)
Kansas City, 1969 and 1978								
$0-6,999	1.9	15,600	300	3,300	1.6	31,600	470	5,900
7,000-9,999		16,400	310	5,500		33,100	490	9,800
10,000-14,999		19,100	360	7,900		38,500	620	14,100
15,000-24,999		23,400	440	12,200		47,400	760	21,700
25,000 or more		33,000	630	21,900		66,600	1,070	39,000
Wichita, 1969 and 1978								
$0-6,999	2.6	12,500	330	3,200	1.2	25,200	255	5,700
7,000-9,999		13,300	350	5,500		26,800	320	9,800
10,000-14,999		14,600	380	7,900		29,600	360	14,100
15,000-24,999		18,000	470	12,300		36,400	440	21,900
25,000 or more		26,400	690	23,300		53,400	640	41,500
Camden, 1974 and 1978								
$0-6,999	4.9	20,100	980	4,400	4.1	24,600	900	5,900
7,000-9,999		22,500	1,100	7,400		27,500	1,040	9,800
10,000-14,999		25,900	1,220	10,700		31,600	1,190	14,100
15,000-24,999		31,000	1,520	16,400		37,900	1,410	21,700
25,000 or more		45,500	2,230	29,300		55,700	2,190	38,700
East Orange, 1974 and 1978								
$0-6,999	6.8	40,800	2,770	4,600	6.9	48,300	3,280	6,100
7,000-9,999		43,500	2,960	7,400		51,500	3,510	9,800
10,000-14,999		41,400	2,820	10,700		49,100	3,330	14,100
15,000-24,999		45,100	3,070	16,400		53,400	3,610	21,500
25,000 or more		59,300	4,030	29,800		70,300	4,750	38,900
Montclair, 1974 and 1978								
$0-6,999	5.1	40,800	2,080	4,600	4.9	48,300	2,210	6,100
7,000-9,999		43,500	2,220	7,500		51,500	2,450	9,900
10,000-14,999		41,400	2,110	10,900		49,100	2,340	14,400
15,000-24,999		45,100	2,300	17,000		53,400	2,530	22,400
25,000 or more		59,300	3,020	35,500		70,300	3,250	46,900

Table A.2--continued

Income Group (In $1976)	Before Fiscal Limit				After Fiscal Limit			
	Property Tax as a % of Value	Average House Value ($)	Property Tax Paid[a] ($)	Average Income ($)	Property Tax as a % of Value	Average House Value ($)	Property Tax Paid[a] ($)	Average Income ($)
Newark, 1974 and 1978								
$0-6,999	5.2	40,800	2,120	4,400	4.9	48,300	2,350	5,900
7,000-9,999		43,500	2,260	7,400		51,500	2,500	9,800
10,000-14,999		41,400	2,150	10,600		49,100	2,390	14,000
15,000-24,999		45,100	2,350	16,300		53,400	2,570	21,600
25,000 or more		59,300	3,080	29,100		70,300	3,380	38,500
Cerritos, 1974 and 1979								
$0-6,999	2.7	37,400	1,010	5,400	1.1	49,200	540	6,900
7,000-9,999		37,500	1,010	8,500		49,600	550	10,900
10,000-14,999		40,300	1,090	12,400		53,300	590	15,900
15,000-24,999		45,000	1,220	19,200		59,400	650	24,600
25,000 or more		66,300	1,790	35,900		87,600	960	46,000
Compton, 1974 and 1979								
$0-6,999	3.0	37,400	1,170	5,100	1.2	49,200	590	6,500
7,000-9,999		37,500	1,133	8,400		49,600	600	10,700
10,000-14,999		40,300	1,210	12,200		53,300	640	15,600
15,000-24,999		45,000	1,350	18,700		59,400	710	24,000
25,000 or more		66,300	1,990	32,400		87,600	1,050	41,500
Los Angeles, 1974 and 1979								
$0-6,999	2.9	37,400	1,080	5,000	1.0	49,200	490	6,400
7,000-9,999		37,500	1,090	8,500		49,600	500	10,900
10,000-14,999		40,300	1,170	12,300		53,300	530	15,800
15,000-24,999		45,000	1,310	19,200		59,400	590	24,600
25,000 or more		66,300	1,920	37,400		87,600	880	47,900
Oakland, 1974 and 1979								
$0-6,999	3.3	40,900	1,350	5,000	1.1	53,800	590	6,400
7,000-9,999		42,700	1,410	8,500		56,300	620	10,900
10,000-14,999		43,400	1,430	12,300		57,200	630	15,800
15,000-24,999		46,400	1,630	19,100		65,100	720	24,500
25,000 or more		67,100	2,210	36,700		88,400	970	47,100

[a]For Kansas City and Wichita, net of rebates in 1978; none applied in 1969. For Camden, East Orange, Montclair, and Newark, net of rebates in 1978; none applied in 1974.

Table A.2

Increased Income Tax Obligations Resulting from Property Tax Cuts in California, by Income Class

Income Group	(1) Property Tax Cut, 1978-79[a] ($)	(2) Avg. Marginal Income Tax Rate: State[b] (%)	(3) Avg. Marginal Income Tax Rate: Federal[c] (%)	(4) Additional Income Tax Obligations: State ($)	(5) Additional Income Tax Obligations: Federal[d] ($)
Fresno					
$0-6,999	470	3	18	14	84
7,000-9,999	660	3	20	23	87
10,000-14,999	580	5	24	25	114
15,000-24,999	570	7	29	40	154
25,000 or more	830	11	32	91	236
Compton					
$0-6,999	530	3	16	16	82
7,000-9,999	530	5	20	27	101
10,000-14,999	570	5	24	29	130
15,000-24,999	660	7	29	45	173
25,000 or more	960	11	32	103	298
Los Angeles					
$0-6,999	580	3	16	18	92
7,000-9,999	590	5	20	30	112
10,000-14,999	640	5	24	32	136
15,000-24,999	720	7	29	50	194
25,000 or more	1060	11	32	116	296
Oakland					
$0-6,999	760	3	16	23	118
7,000-9,999	760	5	20	40	150
10,000-14,999	800	5	24	40	192
15,000-24,999	910	7	29	64	263
25,000 or more	1240	11	32	136	353

[a]Source: Table A.1.

[b]Based on a weighted average of tax rates on taxable income applicable for joint returns, single returns, and unmarried-head-of-household returns at the midpoint of each income class in 1978. Relationship between adjusted gross income and taxable income derived from figures for these brackets for each type of return in 1978. State of California, Franchise Tax Board, *Annual Report*, Sacramento, 1978.

[c]Based on marginal tax rates on taxable income at midpoint of class (average for all types of returns). Relationship between adjusted gross income and taxable income derived from figures for above brackets. Internal Revenue Service, *Statistics of Income--1978, Individual Tax Returns*, Washington, D.C., 1978.

[d]These obligations are net of assumed increases in state income tax obligations resulting from the reduction in property tax; i.e., Col. (1) × Col. (3) × [Col. (1) - Col. (4)].

Table A.4

Suits Measure of Tax Proportionality

City	Total Local and State Tax Incidence			
	Pre-Limit Year		Post-Limit Year	
	Including Local Component of Property Taxes	Including National and Local Component of Property Taxes	Including Local Component of Property Taxes	Including National and Local Component of Property Taxes
Kansas City	-.001	+.021	+.049	+.047
Wichita	-.029	+.003	+.033	+.035
Camden	-.024	-.044	+.026	-.011
East Orange	-.032	-.128	-.014	-.024
Montclair	-.008	+.057	+.010	+.052
Newark	+.012	-.024	+.025	-.026
Cerritos	+.067	+.077	+.119	+.103
Compton	+.040	+.028	+.074	+.056
Los Angeles	+.037	+.055	+.073	+.075
Oakland	+.039	+.051	+.034	+.065

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